Operation,
Installation,
& Service
Manual

TRUCK MOUNTED HOOK HOISTS

MODELS KP625 , KP630

Congratulations

You have just purchased a quality designed and manufactured K-PAC Product. Advanced features have been designed into all K-PAC equipment for modern waste disposal operations. As with any investment, a return is expected, and the return received from this investment will be in the form of maximum performance during many years of dependable service.

In order to maintain quality performance of the new K-PAC investment, it is important that all of the information in the manual be reviewed and studied carefully before operation. The contents provide operating instructions, installation instructions, maintenance instructions, parts information, and information on how to make adjustments.

It is suggested that owner / operators read American National Standard Safety Requirements for refuse, handling and hauling of collection and compaction equipment. Copies may be purchased from the AMERICAN NATIONAL STANDARDS INSTITUTE, 1430 BROADWAY, NEW YORK, NEW YORK, 10018.

Elimination of the hazards listed in this manual should not be construed as providing guarantees that the equipment will meet or exceed all standards or regulations, or will be completely safe to all personnel. The operator should inspect and review the equipment after it is in his possession for adequacy in safety for the function for which it will be used.

READ ALL THE SAFETY DECALS ON THE EQUIPMENT. WATCH FOR THE SAFETY SYMBOL AND READ THE INFORMATION. THIS IS FOR YOUR OWN PROTECTION.

Member of

KP625/KP630 HOOK HOIST
DEALER PREDELIVERY CHECK SHEET
TO BE CHECKED BY DEALER

CUSTOMER _____ DATE _____

ADDRESS _____ COUNTY _____

DEALER _____

ADDRESS _____ COUNTY _____

MODEL _____ SERIAL NUMBER _____

DEALER CHECK:

1. ____ Check that all cylinders are full of hydraulic oil and free of air. Use Mobil DTE25 or equivalent.
2. ____ Examine all hydraulic hoses to see that they are protected from damage.
3. ____ Check that all decals are in place and legible.
4. ____ Test the back-up alarm.
5. ____ Check that all tail lights are functioning properly.
6. ____ Engage the P.T.O. Check the dash light. Check for any unusual noises.
7. ____ Check that the control handles correspond with directional decals.
8. ____ Make sure all lubrication points have been lubed.

DELIVERED BY: _____

DATE _____

CUSTOMER REVIEW SHEET

1. ____ Owner's manual provided.
2. ____ Warranty card is filled out and mailed.
3. ____ Review the safety warnings and cautions as listed in this manual.
4. ____ Review the container loading, and unloading procedures.
5. ____ Explain the importance of proper maintenance of the boom pivot, boom slide and hydraulic components.
6. ____ Review all of the lubrication points.

DELIVERED BY: _____

DATE _____

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⚠ WARNING

Escaping fluid under pressure can penetrate the skin causing serious injury. Avoid the hazard by relieving pressure before disconnecting hydraulic lines. Tighten all connections before applying pressure.

Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids.

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result.

INSPECT the hose assembly before each use.

REPLACE the hose assembly immediately if:
A. The jacket of the hose appears abnormal.
B. You have reason to believe it may be abnormal.
C. There is any fluid leakage.
D. The couplings are damaged.
E. The hose is damaged or kinked.
F. The reinforcement is visible through the jacket.

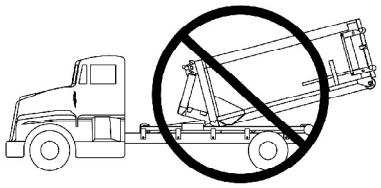
74-276

⚠ CAUTION

DO NOT EXCEED 1600 ENGINE RPM WHEN OPERATING POWER TAKE OFF!

74-299

⚠ DANGER

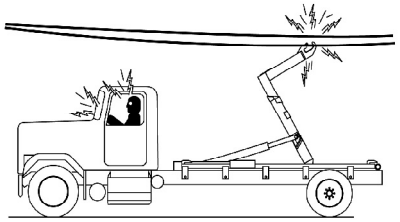


HOOK AND BAIL HEIGHTS *MUST* MATCH

OR LOAD WILL BE UNSTABLE AND MAY FALL CAUSING SERIOUS INJURY OR DEATH TO OPERATOR AND/OR BYSTANDERS.

74-490

⚠ DANGER



BE AWARE OF POWERLINES AND OVERHEAD OBSTRUCTIONS.

CONTACT BY THE HOIST OR CONTAINER COULD CAUSE SERIOUS INJURY OR DEATH TO THE OPERATOR AND BYSTANDERS.

74-485

⚠ DANGER

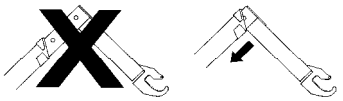
STAND CLEAR

WHEN THIS UNIT IS IN OPERATION!

FAILURE TO DO SO COULD RESULT IN SERIOUS PERSONAL INJURY.

74-302

⚠ CAUTION



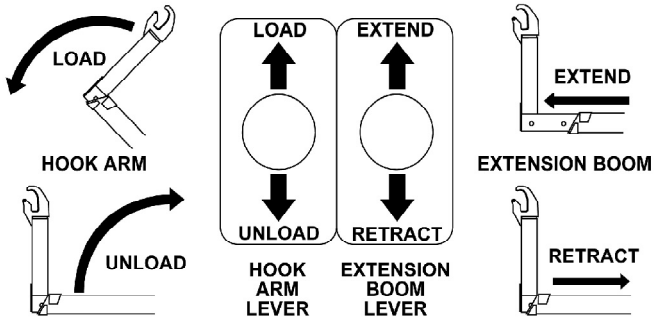
DO NOT LIFT WITH INNER BOOM EXTENDED.

INNER BOOM MUST BE RETRACTED BEFORE LIFTING.

74-482

IMPORTANT

RETRACT BOOM BEFORE UNLOADING



74-478

⚠ CAUTION

DO NOT ATTEMPT TO OPERATE EQUIPMENT WITHOUT PROPER TRAINING.

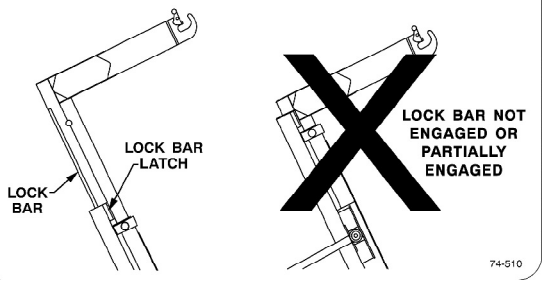
1. OBSERVE AND PRACTICE ALL SAFETY AND OPERATING RULES AS ESTABLISHED BY YOUR COMPANY AND THOSE INCLUDED IN MANUAL.
2. KEEP CLEAR OF HOIST FRAME WHEN RAISING OR LOWERING.
3. DO NOT WORK ON OR UNDER THE HOIST UNLESS PROPERLY BLOCKED AND SECURED.
4. DO NOT EXCEED THE MAXIMUM RATING FOR HOOK OPERATING LIMITS STATED BY THE MANUFACTURER.
5. OPERATE ON LEVEL GROUND.
6. DISTRIBUTE LOAD EVENLY.
7. DO NOT DRIVE TRUCK WITH P.T.O. ENGAGED.
8. BE SURE TRUCK IS CLEAR OF ANY OVERHEAD ELECTRICAL WIRES OR OBSTRUCTIONS BEFORE RAISING HOIST.

BE CAREFUL - - BE ALERT
USE GOOD JUDGEMENT

74-477

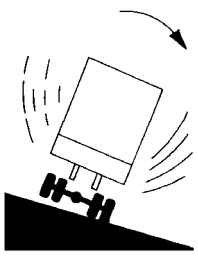
⚠ DANGER

LOCK BAR MUST FULLY ENGAGED TO DUMP CONTAINER



74-510

⚠ WARNING



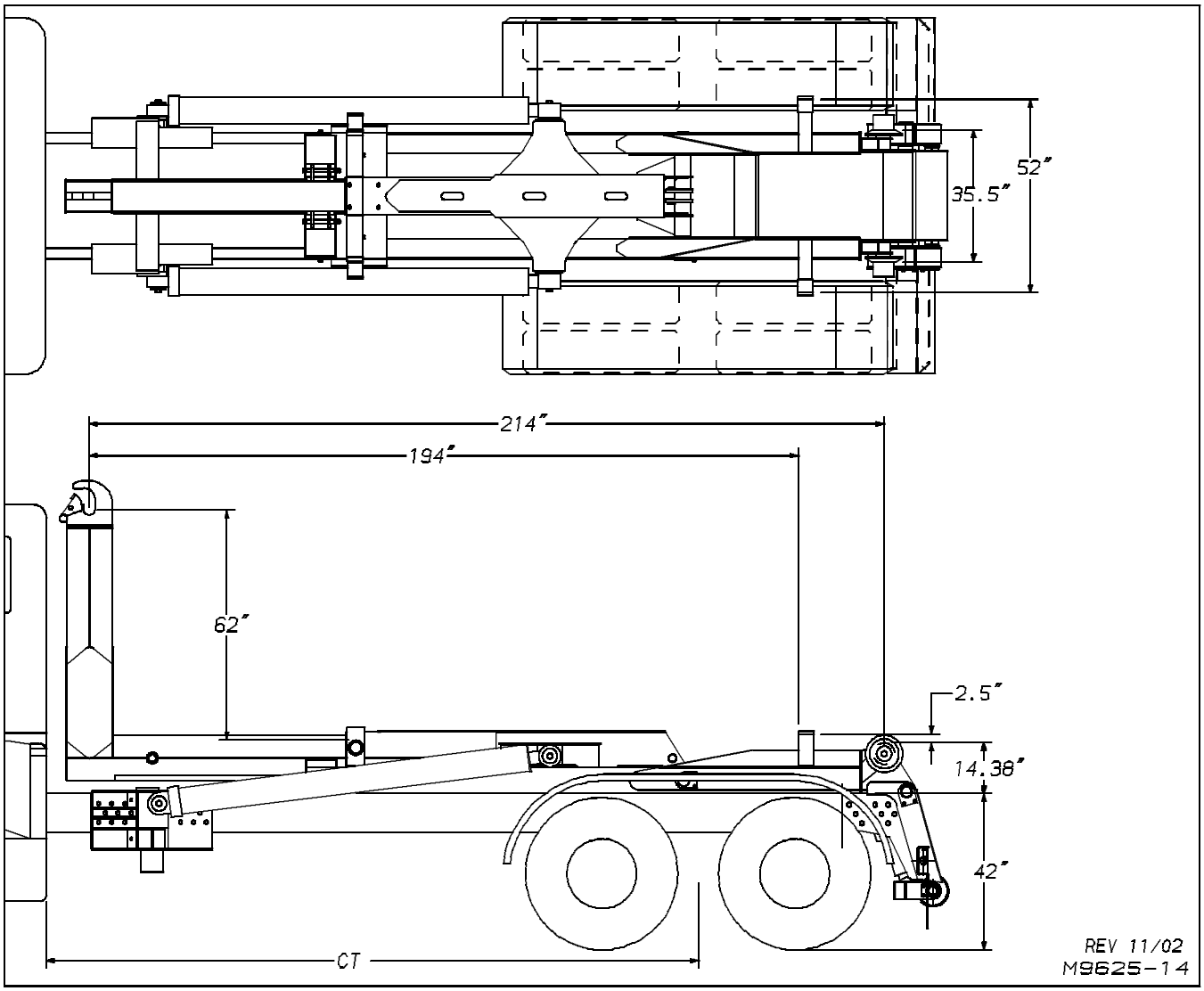
DO NOT LOAD, UNLOAD OR DUMP A CONTAINER ON UNEVEN GROUND.

A LOADED CONTAINER CREATES A TOP-HEAVY LOAD. USE CAUTION WHEN DRIVING ON UNEVEN GROUND AND TURNING CORNERS.

SERIOUS PERSONAL INJURY AND EQUIPMENT DAMAGE COULD RESULT.

74-297

SPECIFICATIONS



Chassis C.T.: 176" (See page A1, A2)

Frame Width: 34" (Outside) + reinforcement thickness

Min G.V.W.R.: 52,000lbs.

Frame Height: To 42" top of chassis unladen

Sub Frame: Full length 5" x 7" tube

Load Rating: With suitable G.V.W.R. including body weight

50,000 lbs. - KP625

60,000 lbs. - KP630

Dump Angle: 50° with suitable body length

Operating Pressure: 2,800 PSI

Gear Pump: 40 gpm @ 1600-1800 rpm direct mount STD.

Operation: In-cab controls standard

Hook Height: 62" (176 CA)

Weight: 6,000 lbs.

Hydraulic Planetary: 6 ton 75' of 7/16" cable w/hook, level wind feature - Std.

Cylinders: Twin double acting cylinder

6.5" x 87" - KP625

7.0" x 87" - KP630

Boom Cylinder 4" x 62" Stabilizer Cylinder 4" x 12.5"

Low Pressure S.A.E Hydraulic System

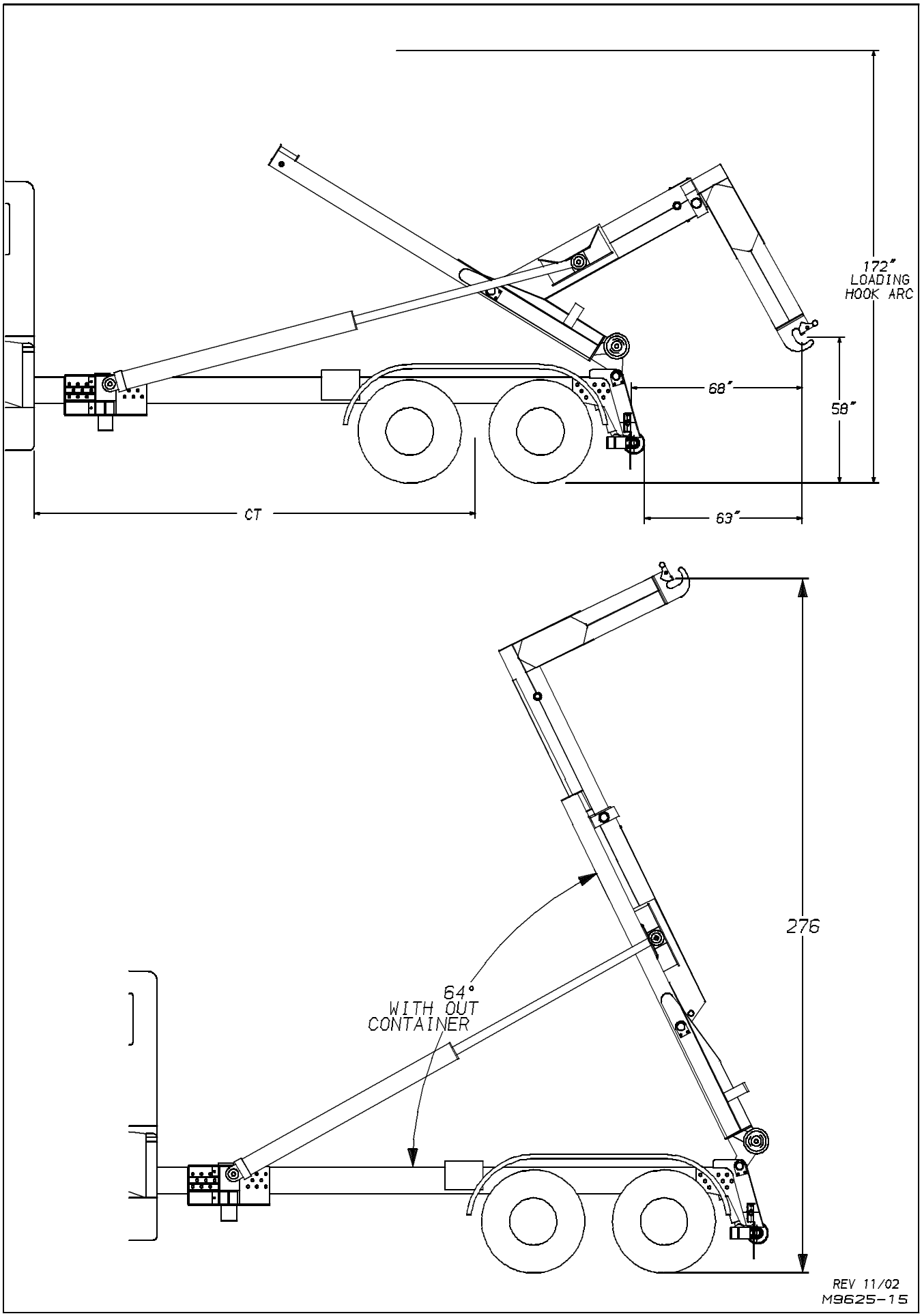
Gear driven hydraulic pump

Nylatron pads in boom

Sliding "L" arm

2-full sub-frame locks

Cantilevered lock on hook


172"
LOADING
HOOK ARC
68"
58"
CT
63"
276
64°
WITH OUT
CONTAINER
REV 11/02
M9625-15

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SAFETY FIRST

A. Read and understand this operator's manual before operating the hoist.
B. Be sure safety decals are clean and in place.
C. **Never** position yourself, or any other person, under any raised portion of the hoist unless the hoist is **firmly resting on blocks**.
D. **Never** operate this unit unless the hydraulic system, including the cylinders and lines, are full of oil and free of air.

Warning: Escaping fluid under pressure can penetrate the skin causing serious injury. Avoid the hazard by relieving pressure before disconnecting hydraulic lines. Tighten all connections before applying pressure.

Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids.

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result.

E. Check the area for power lines and overhead obstructions.
F. Be sure the area and container are clear of personnel.
G. Do not load, dump or unload a container on uneven ground.
H. Do not move the truck while the hoist and container are raised. A raised load creates a top heavy unstable load.
I. Do not use any method to hold a valve open which will not let the valve automatically close when released.
J. Check the pivot bushing and slide pads for excessive wear.
K. Check all snap rings and shaft securing bolts to be sure they are tight.

OPERATING INSTRUCTIONS

K-PAC WARRANTY INFORMATION

Congratulations on the purchase of the KP625/630 Hook Hoist. K-PAC Equipment, Division of Krause Corporation, takes pride in engineering and manufacturing products which are of the finest quality and highest standard. As a result, we stand behind any K-PAC Equipment product or component claimed to be defective during the warranty period. To avoid delays with the service process, please read the warranty instructions (in the first section of this manual) at the time of the vehicle purchase, and complete and return the supplied warranty card.

HOOK HOIST CHECK LIST

A.____Check hydraulic oil level with all cylinders retracted.
B.____Grease all lubrication points.
C.____Rollers are free to rotate.
D.____Tires are properly inflated.
E.____The container hook lock is free to move and works properly.

GENERAL GUIDELINES FOR OPERATION OF HOIST

LOADING A CONTAINER OR FLAT RACK

Caution: Be sure the area in which the hoist is to be operated is level, clear of personnel, as well as obstacles overhead and on the ground. Operating on a unlevel surface could cause damage to the load or hoist equipment.

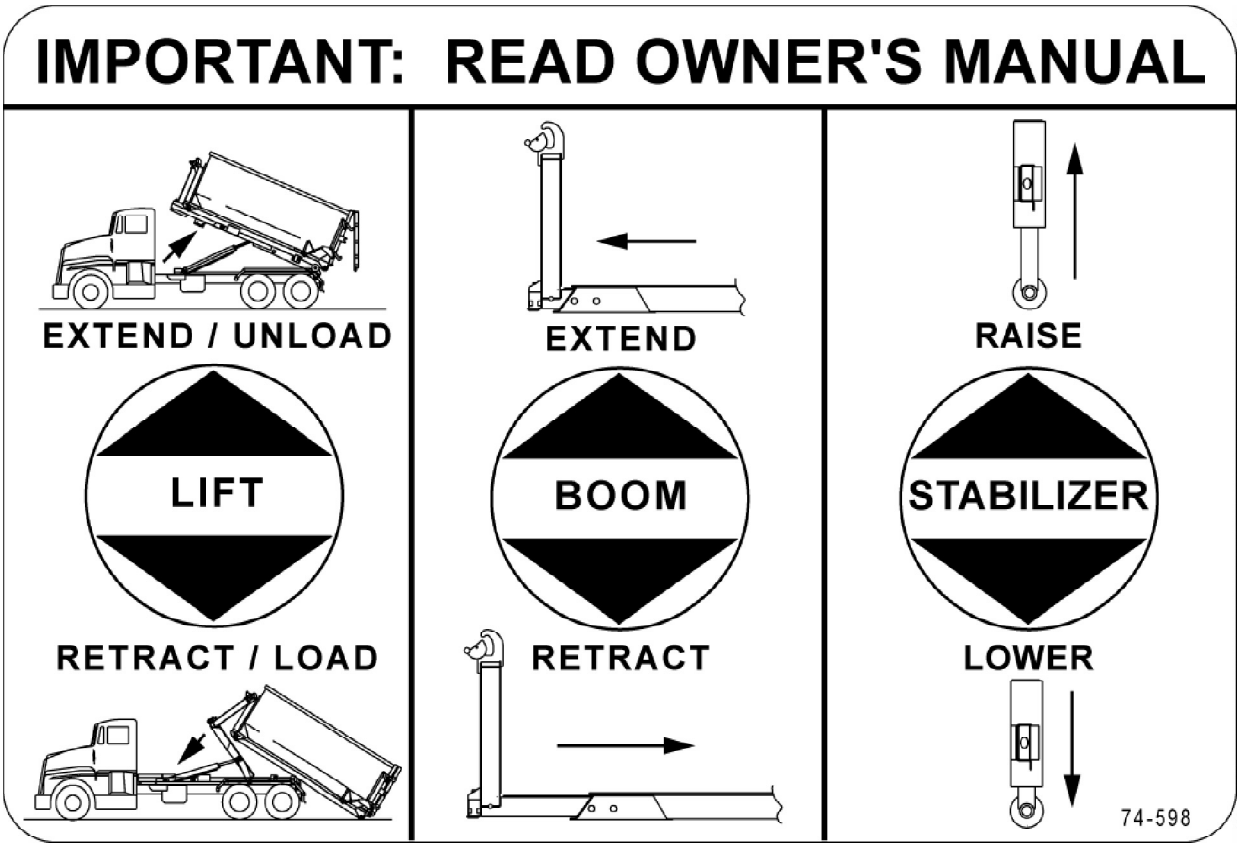
Note: Before loading the flat rack or container onto the hoist, inspect the load to ensure that the materials to be transported are securely fastened to the tie-downs and that all fasteners are in good condition.

Inspect the flat rack or container to ensure that it is clear of all obstructions and persons and that it is not fastened or stuck to the ground.

Caution: Do not attempt to load a container with faulty equipment. Check the condition of the hook safety latch, boom pivot and the inner boom slide pads.

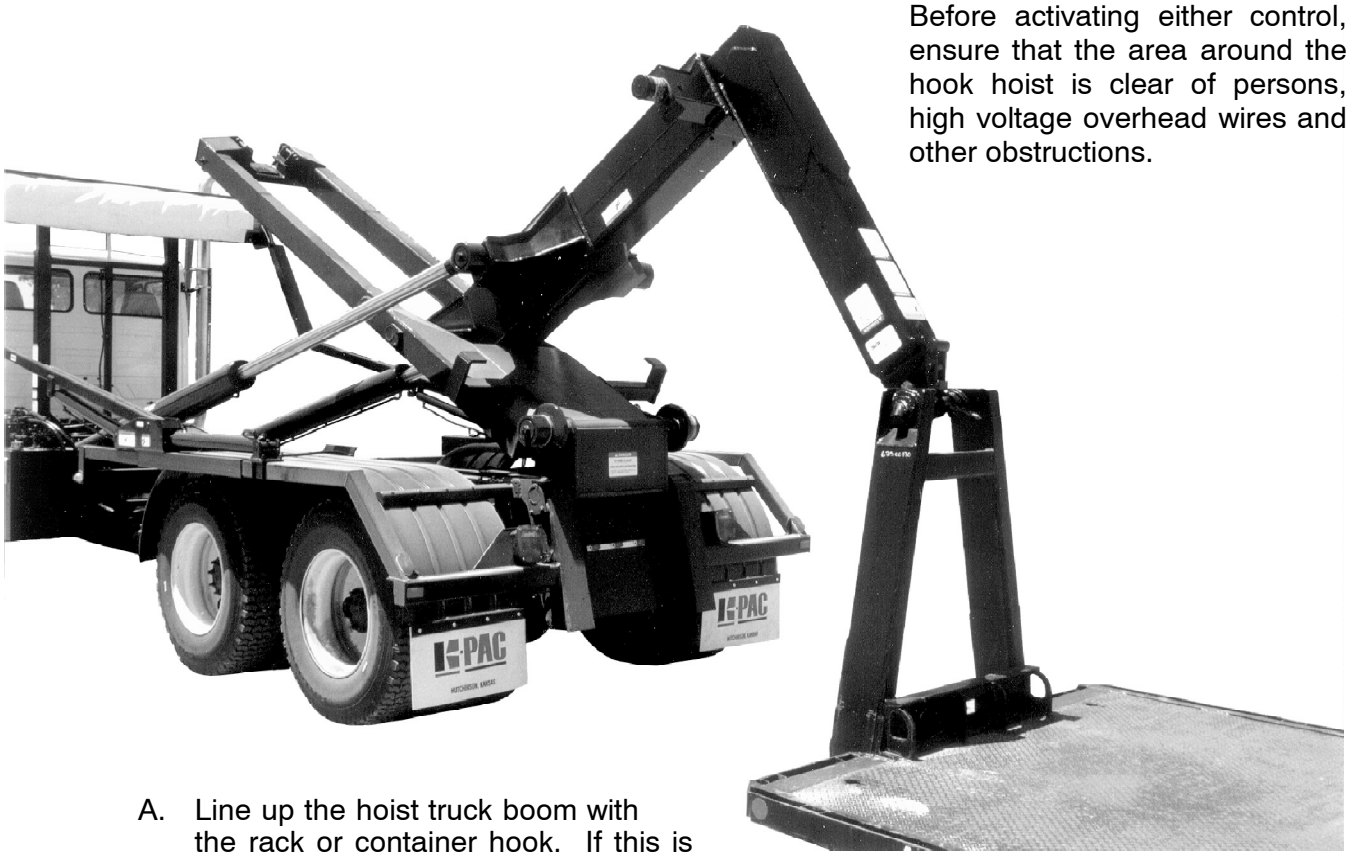
Be sure that the height of the hoist hook is compatible with the container.

Do not lift a container heavier than the rated capacity of the hoist.



Inspect the condition of the “A” Frame and be sure that the combined weight of the pay load and the flat rack or container does not exceed the 50,000# equipment.

Before activating either control, ensure that the area around the hook hoist is clear of persons, high voltage overhead wires and other obstructions.



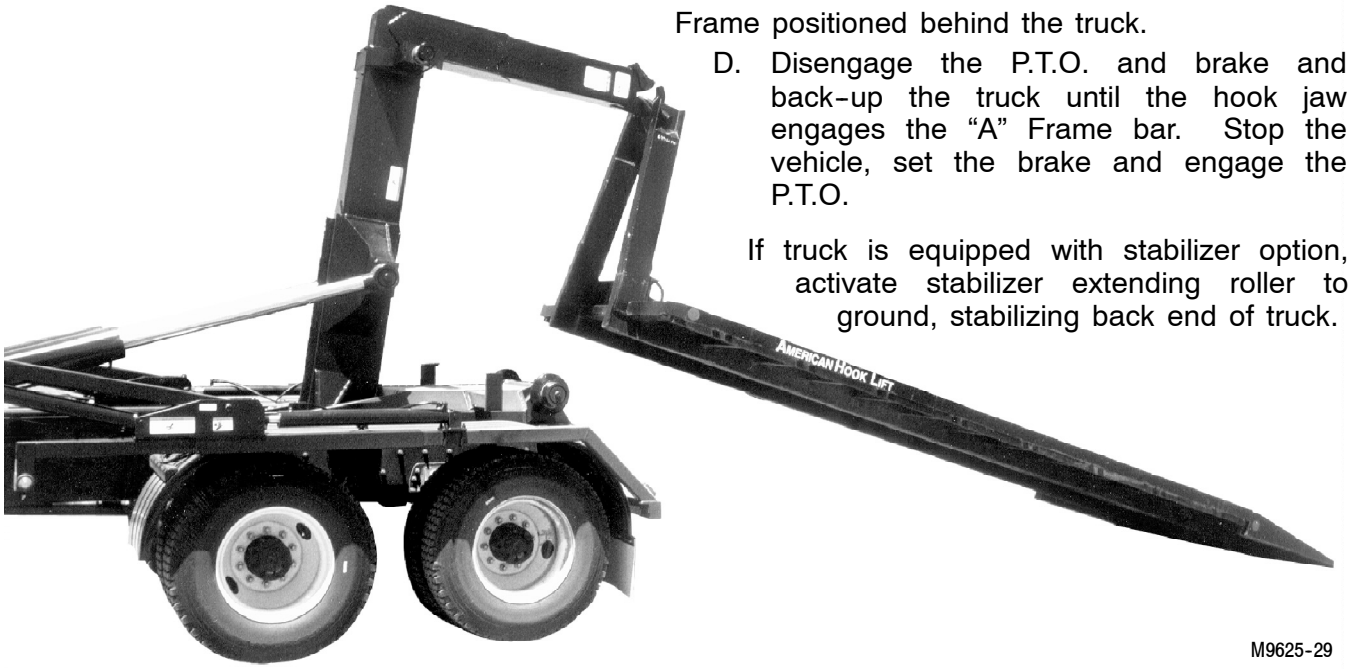
A. Line up the hoist truck boom with the rack or container hook. If this is not possible, the rack or container can be picked and loaded from within a 30° arc, either side of center.

B. Engage the parking brake, depress the clutch and engage the P.T.O. Activate the In-Cab Control to slide the Hook Arm back to the **fully retracted position (this is very important)**. This also disengages the locking for dumping.

C. Activate the In-Cab Control to pivot the Rotation Boom from the back of the cab to the container “A” Frame positioned behind the truck.

D. Disengage the P.T.O. and brake and back-up the truck until the hook jaw engages the “A” Frame bar. Stop the vehicle, set the brake and engage the P.T.O.

If truck is equipped with stabilizer option, activate stabilizer extending roller to ground, stabilizing back end of truck.



M9625-29

E. Push the rotation control forward to move the Rotation Boom forward until the bottom of the rack or container is approximately 10 inches above the guide rollers at the back of the truck. The operator may be required to release the brake so that the truck can be steered until the guide rollers align with the sills of the rack or container. Operator be aware when using stabilizer. It may be better to drag a container on some terrain.

F. If the sills on the bottom of the rack or container are not in line with the guide rollers and the truck, the operator must reposition.

G. When the sills and rollers line up continue to activate the control to move the rack or container onto the hoist sub-frame. By releasing the brake and allowing the truck to roll back under the load, dragging the rear end of the rack or container along the ground can be minimized.

H. Continue the loading procedure until the rack or container is off the ground and re-apply the brake to eliminate further movement of the truck.

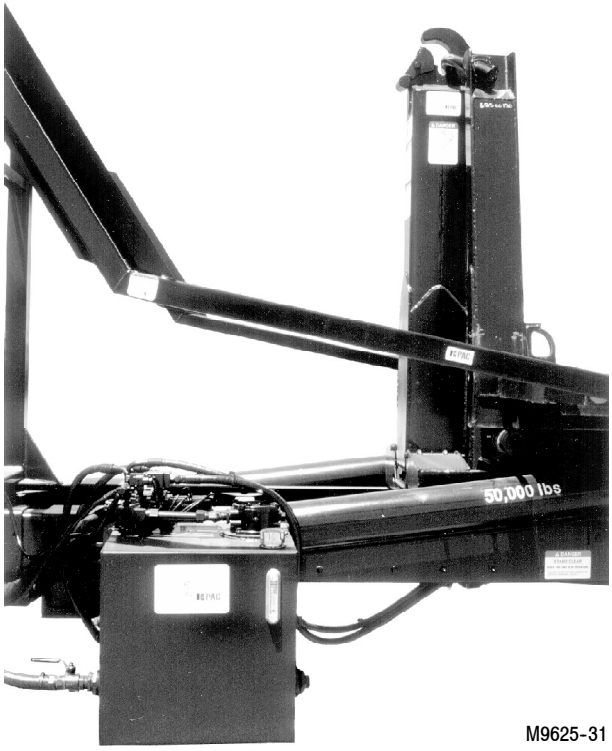
M9625-30

The Rotation Control should be activated until the boom is completely lowered.

I. Activate the Hook Arm Control to extend the Hook Arm which will pull the rack or container toward the truck cab to engage the rack or container lock with the two safety locks on the hoist sub-frame.

J. **IMPORTANT:**
Retract stabilizer after loading is completed.

K. Disengage the P.T.O. Observe road and weather conditions and drive with the caution required for a vehicle under load.



M9625-31

DUMPING A CONTAINER

Caution: Be sure that the truck is on firm level ground before dumping. If one side of the load breaks loose in this high center of gravity position, a truck on unstable footing may roll over on its side.

A. When the path is clear, back the K-PAC Hoist to the dumping site.

B. Put the transmission in the neutral position, and engage the P.T.O. or switch the hydraulic pump on and engage the truck brake.

C. Be sure dumping path is clear including overhead obstructions, and that the truck is on **firm** level ground.

D. Release door(s) on container, and fasten open with safety chain onto container.

E. Inner boom should be **fully extended** when preparing to dump. NEVER retract inner boom past locking mechanism on hoist. **Note:** A hydraulic safety interlock prevent the operator from retracting the inner boom as boom is lifted off truck frame. Check that this safety feature is operating correctly.

Caution: This hoist dumps the load from a container at a very steep angle which raises the truck's center of gravity. Use caution when dumping a sticky or frozen load to prevent the truck from rolling over.

F. Activate the dumping controls raising hoist to maximum dumping angle.

G. The truck can be moved forward from the dumping site by disengaing the P.T.O. and brake. When area is clear move the truck forward several feet only.

H. Re-engage the P.T.O. and brake. Active the control to lower the tilt frame back into the down position on the truck chassis.

I. Secure the door(s) on container.

J. Disengage P.T.O. and drive safely.

M9625-32

Caution: Do not drive forward until the hoist is lowered to the full-down position.

UNLOADING FLAT RACKS BINS OR OTHER CONTAINERS FROM THE HOIST SYSTEM

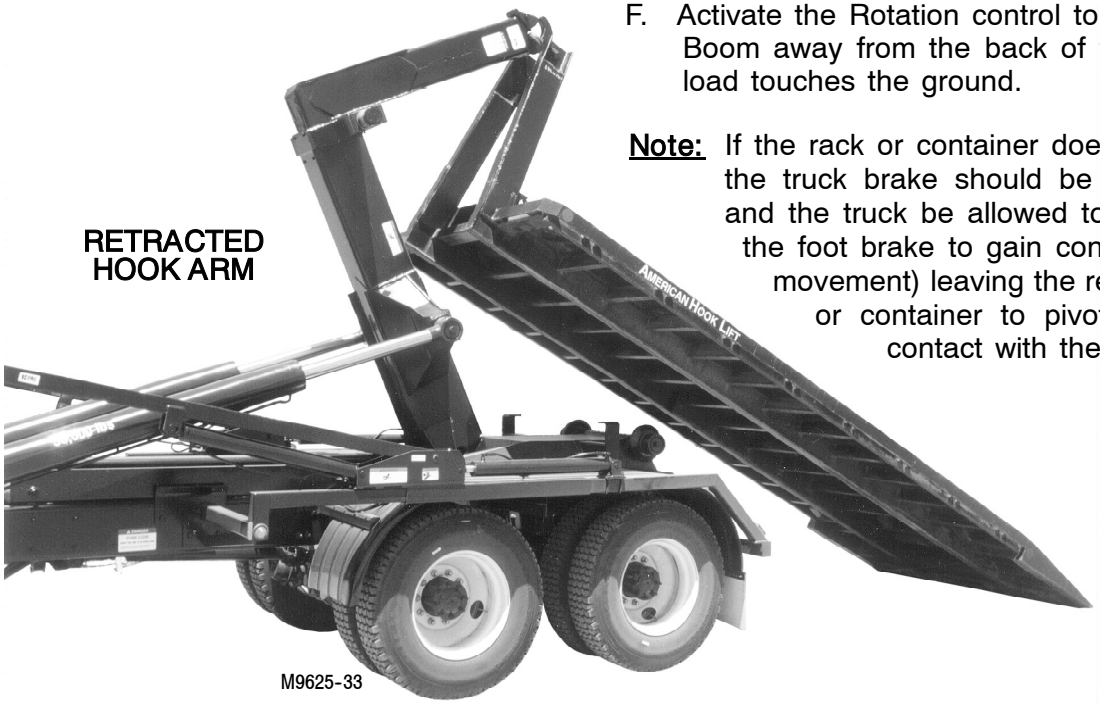
A. Position the rear of the truck approximately 10 feet in front of the desired resting place for the rack or container. This will allow for the distance the rack or container will travel during the unloading procedure.

B. Put the truck transmission in neutral and engage the parking brake.

C. Inspect the desired area for obstruction both around and overhead and instruct all persons to **stand clear** of the equipment.

D. Inspect the load on the truck to ensure that it will remain stable during the unloading procedure.

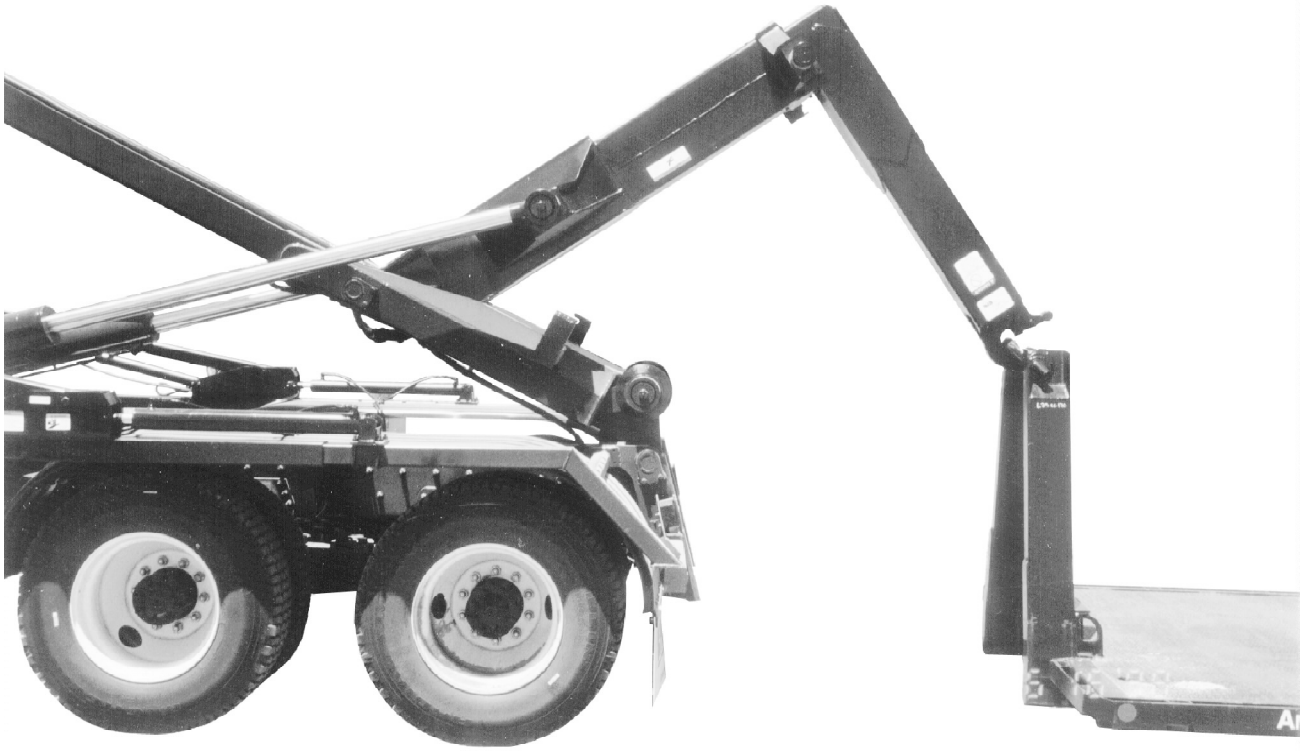
E. Engage the truck's P.T.O. and activate the Hook Arm Control to retract the Hook Arm completely. This procedure will push the rack or container away from the back of the truck cab, and disengage the locking mechanism.



F. Activate the Rotation control to pivot the Rotation Boom away from the back of the truck, until the load touches the ground.

Note: If the rack or container does not have rollers, the truck brake should be carefully released and the truck be allowed to roll forward, (use the foot brake to gain control of the forward movement) leaving the rear end of the rack or container to pivot until it is in full contact with the ground.

G. Continue to pivot the rotation arm until the hook arm jaws can be disconnected from the “A” Frame connection bar.

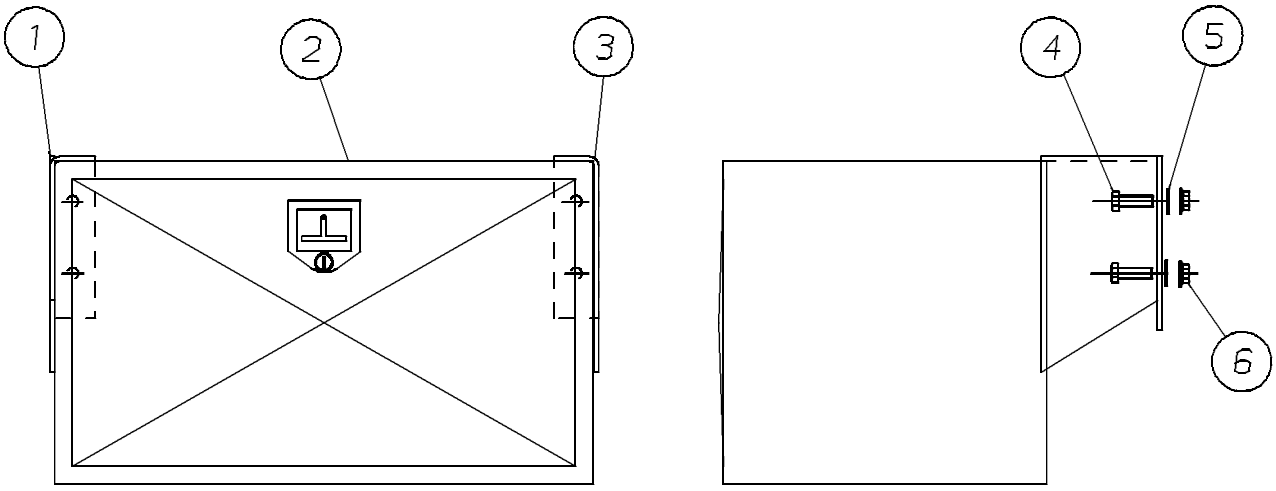


H. When the Hook Arm Jaws are clear of the “A” Frame Connection Bar, disengage the P.T.O. and after ensuring that the path is clear, move the truck forward about three feet.

I. Re-engage the P.T.O. and parking brake and activate the control to pivot the Rotation Boom fully forward until it reaches its resting position.

J. Activate the Hook Arm Control and extend the Hook Arm towards the truck cab.

30” TOOL BOX



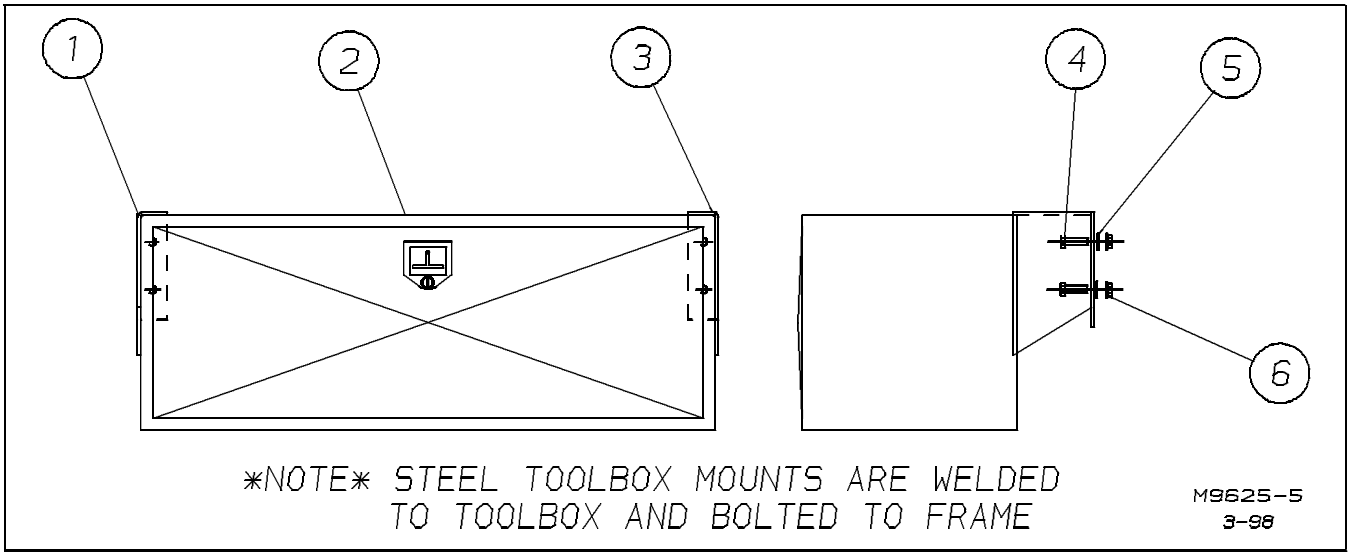
NOTE STEEL TOOLBOX MOUNTS ARE WELDED
TO TOOLBOX AND BOLTED TO FRAME

M9606-4
3/97

FOR MODELS - KP625 / KP630 4/98

Item	Part Number	Part Description	Qty.
1	9606-111-0	Left Tank Strap Weldment	1
2	82-245	Steel Tool Box	1
3	9606-112-0	Right Tank Strap Weldment	1
4	62-708	5/8NC x 2-1/2” GD.8 Cap Screw	4
5	63-110	5/8NC Lock Nut	4
6	64-110	5/8” STD. Flat Washer	4

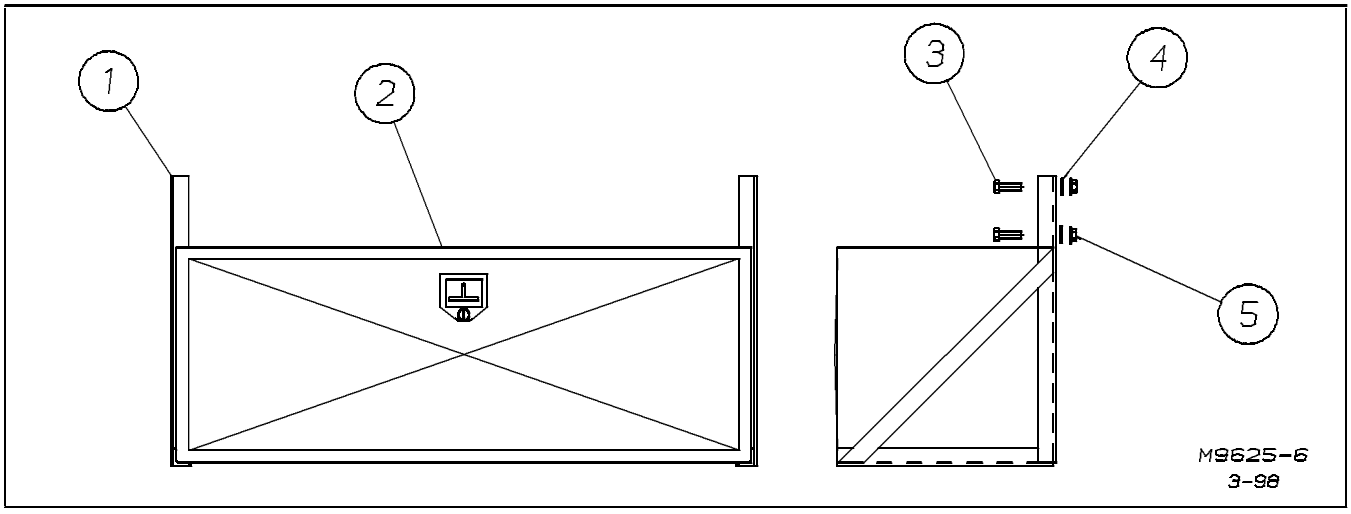
48" TOOL BOX



FOR MODELS - KP625 / KP630 4/98

Item	Part Number	Part Description	Qty.
1	9606-111-0	Left Tank Strap Weldment	1
2	82-277	Large Steel Tool Box	1
3	9606-112-0	Right Tank Strap Weldment	1
4	62-708	5/8NC x 2-1/2" GD.8 Cap Screw	4
5	63-110	5/8NC Lock Nut	4
6	64-110	5/8" STD. Flat Washer	4

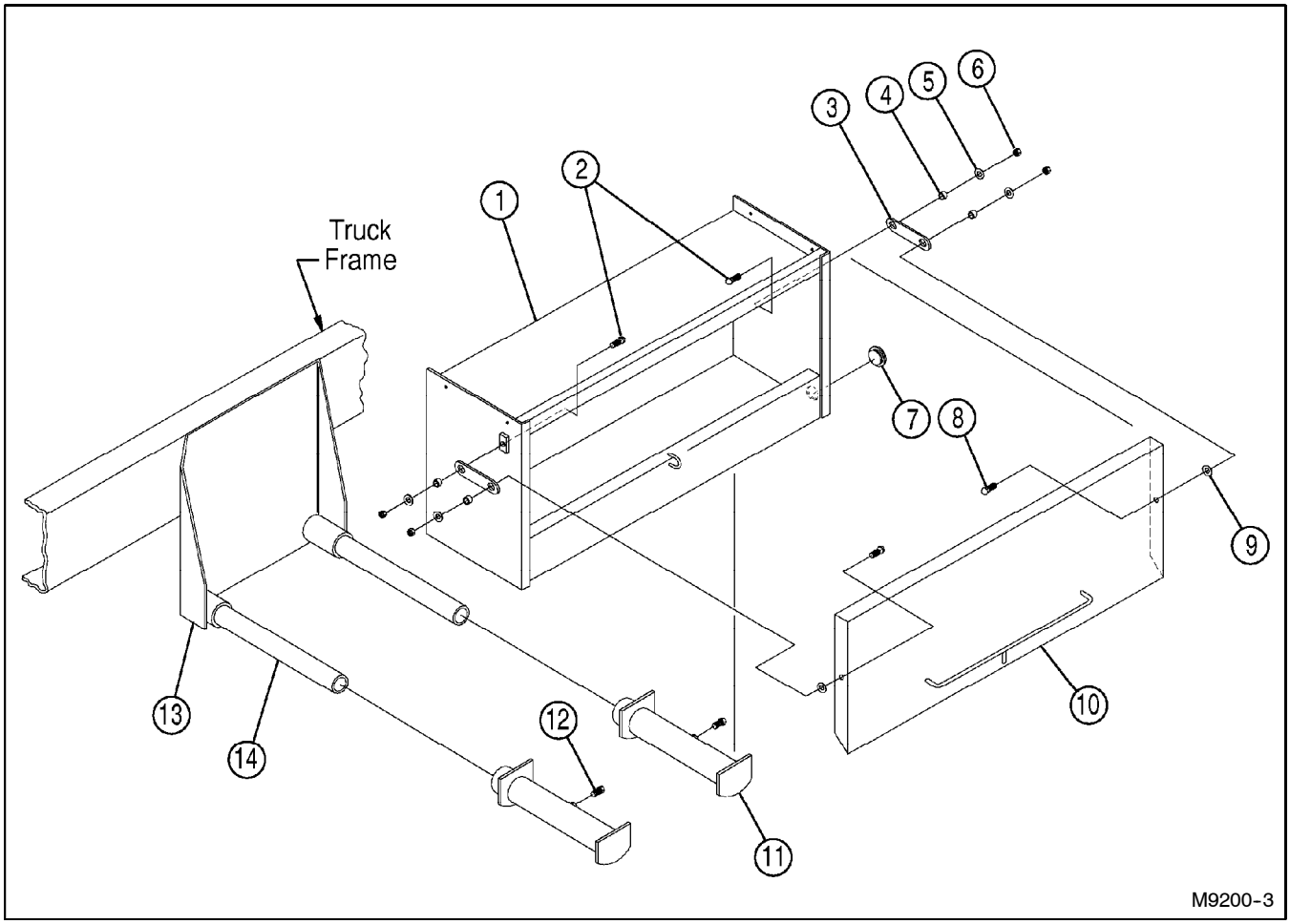
ALUMINUM TOOL BOX



FOR MODELS - KP625 / KP630 4/98

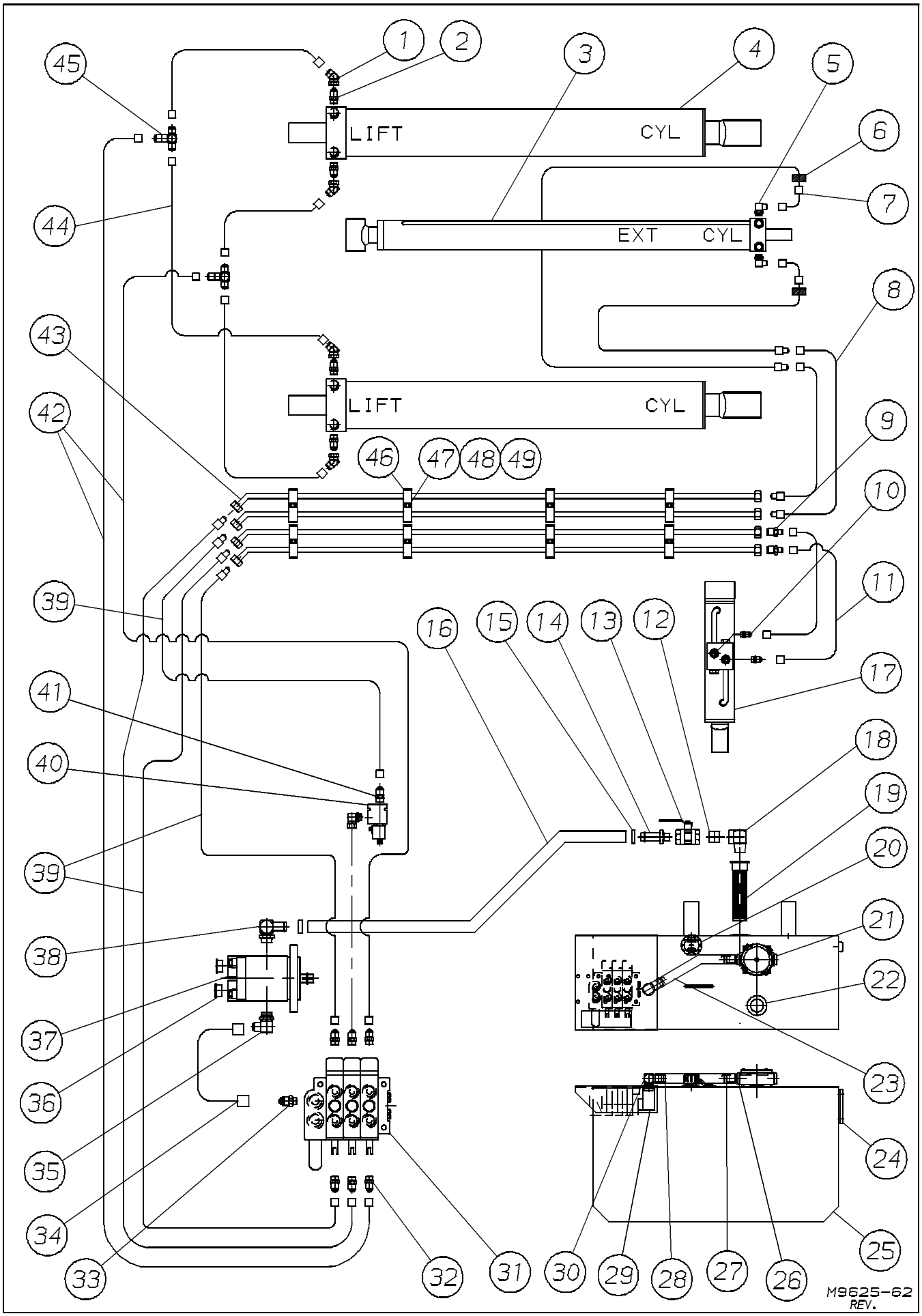
Item	Part Number	Part Description	Qty.
1	82-248	Left and Right Hand Mounting Brackets	1
2	82-276	Large Aluminum Tool Box	1
3	62-708	5/8NC x 2-1/2" GD8 Cap Screw	4
4	63-110	5/8NC Lock Nut	4
5	64-110	5/8" STD. Flat Washer	4

TOOL BOX ASSEMBLY



FOR MODELS - ALL 6/94

Item	Part Number	Part Description	Qty.
	9274-110-0	Tool Box & Platform Assembly	1
1	9274-36-0	Tool Box Weldment	1
2	62-139	1/2NC x 1-3/4" Carriage Bolt	2
3	9274-35-1	Hinge Strap	2
4	53-126	Wear Sleeve	4
5	64-108	1/2" STD. Flat Washer	4
6	63-107	1/2NC Self Locking Nut	4
7	75-109	Plastic Plug	1
8	62-442	1/2NC x 1-1/2" Round Head Square Neck Bolt	2
9	64-110	5/8" STD. Flat Washer	2
10	9274-37-0	Tool Box Lid Weldment	1
11	9274-48-0	Tool Box Rack	2
12	62-401	1/2NC x 1" Cap Screw	2
13	9274-59-0A	Tank Mounting Weldment	2
14	9274-45-1	Pipe	2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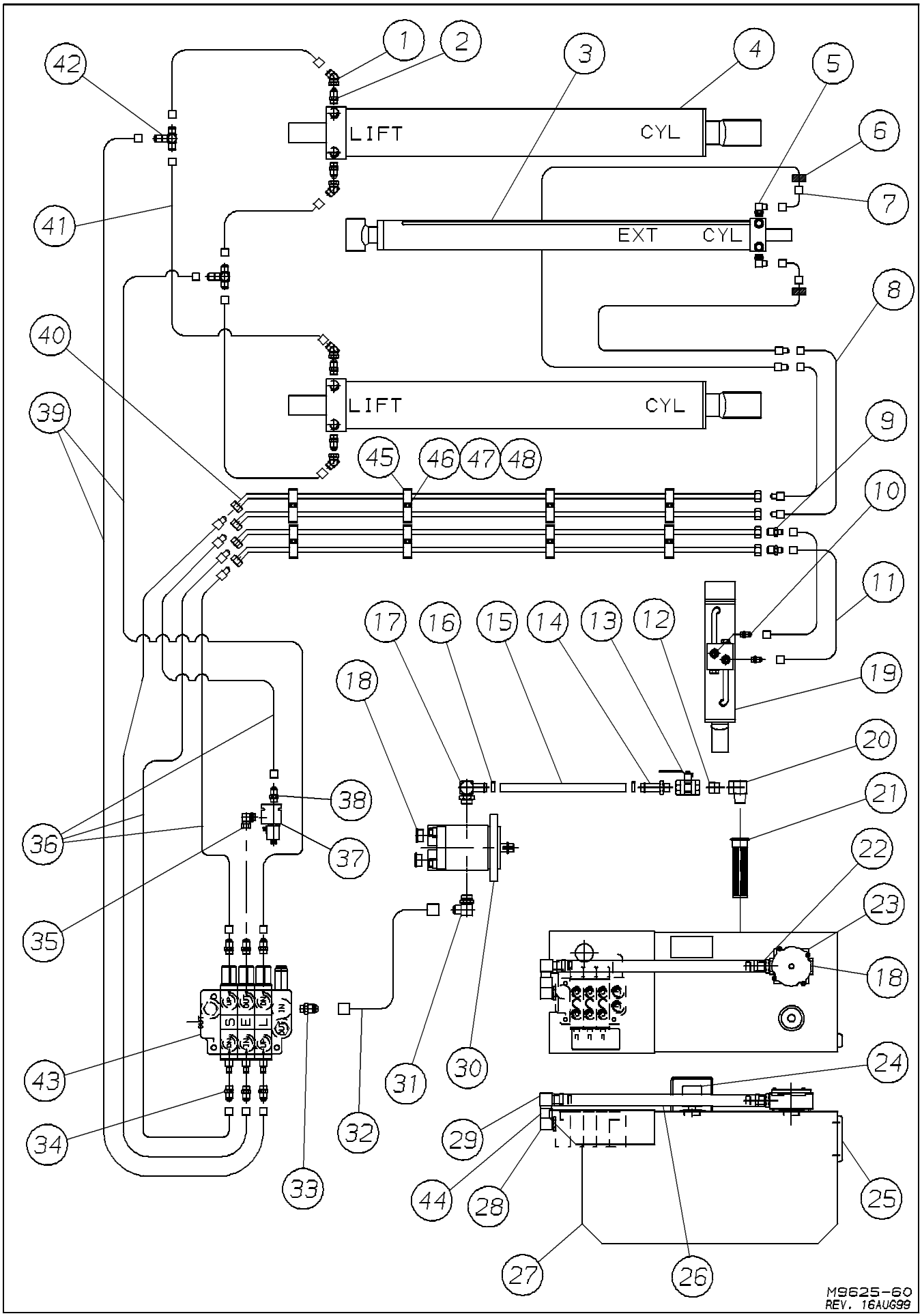
HYDRAULICS (60 GALLON TANK)

FOR MODELS - KP625 / KP630 SERIAL# 1049 & HIGHER

2/01

Item	Part Number	Part Description	Qty.
1	25-346	1-1/16(M) JIC to 1-1/16(F) JIC Swivel 45° Hydraulic Fitting	4
2	25-342	1-1/16(M) O-Ring to 1-1/16(M) JIC Hydraulic Fitting	4
3	23-712	4" x 62" D.A. Hydraulic Cylinder	1
4	23-710	6-1/2" x 87" D.A. Hydraulic Cylinder (Model KP625)	2
	23-711	7" x 87" D.A. Hydraulic Cylinder (Model KP630)	2
5	25-561	7/8(M) O-Ring to 1-1/16(M) JIC 90° Hydraulic Fitting	2
6	82-303	Hose Clamp	2
7	24-657	3/4" x 62" (1-1/16JIC x 90°) Hose Assembly	2
8	24-640	3/4" x 62" (1-1/16 M/F) Black 3000 PSI Hose Assembly	2
9	25-604	1-1/16(M)JIC to 3/4(M)JIC Hydraulic Fitting	2
10	25-300	3/4(M) O-Ring to 3/4(M) JIC Hydraulic Fitting	2
11	24-393R	1/2" x 36" (3/4JIC) Black 3000 PSI Hose Assembly	2
12	75-141	1-1/4NPT Close Nipple	1
13	25-2387	1-1/4(F) NPT to 1-1/4(F) NPT Ball Valve	1
14	25-1178	1-1/4(M) NPT to 1-1/4 Hose End Hydraulic Fitting	1
15	25-487	1-5/16" x 2-1/4" Hose Clamp	4
16	24-1136	1-1/4" x 94" 100R4 Hose	1
17	23-713	4" x 12-1/2" D.A. Cylinder	1
18	25-523	1-1/4(M) NPT to 1-1/4(F) NPT x 90° Hydraulic Fitting	1
19	25-233	25 GPM Oil Strainer	1
20	25-2471	Air Filter	1
21	25-2247	Oil Filter Assembly	1
	25-2248	In Tank Filter Element	1
22	75-160	2NPT Square Head Pipe Plug	1
23	24-1149	1-1/4" x 19" 100R4 Suction Hose	1
24	25-235	Sight Gauge w/ Temperature 5"	1
25	9274-30-0B	Hydraulic Tank Weldment	1
26	75-162	1-1/4"(F) NPT to 1-1/2"(M) NPT Pipe Bushing	1
27	25-1178	1-1/4"(M) NPT to 1-1/4" Hose End Hydraulic Fitting	1
28	25-487	1-5/16" x 2-1/4" Hose Clamp (T-Bolt Style)	2
29	25-338	1-5/8(M) O-Ring to 1-1/4(F) NPT x 90° Hydraulic Fitting	1
30	25-170	1-1/4"(M) NPT to 1-1/4" Hose x 90° Hydraulic Fitting	1
31	25-2487	Hydraulic Valve Assembly (2-Spool)	1
	25-2488	Hydraulic Valve Assembly (3-Spool)	1
32	25-333	1-5/16(M) O-Ring to 1-1/16(M) JIC Hydraulic Fitting	4 to 6
33	25-350	1-5/16(M) O-Ring to 1-5/16(M) JIC Hydraulic Fitting	1
34	24-648	1" x 96" (1-5/16JIC) 90° Black Hose Assembly	1
35	★ 25-344	1-5/8(M) O-Ring to 1-5/16(M) JIC 90° Hydraulic Fitting	1
	★ 25-602	1-1/4(M) NPT to 1-5/16(M) JIC 90° Hydraulic Fitting	1
36	75-161	1-1/4NPT Square Head Black Pipe Plug	2
37	25-245	36 GPM Pump (Commercial Intertech)	1
38	★ 25-343	1-5/8(M) O-Ring to 1-1/4" Hose End x 90° Hydraulic Fitting	1
39	24-640	3/4" x 62" (1-1/16 M/F) Black 3000 PSI Hose Assembly	3
40	79-508	40 GPM Solenoid Valve	1
41	25-342	1-1/16(M) O-Ring to 1-1/16(M) JIC Hydraulic Fitting	1
42	24-656	3/4" x 60" (1-1/16 JIC) Black 3000 PSI Hose Assembly	2
43	24-431	Hydraulic Tube Assembly - 187" Long	2 to 4
44	24-603	3/4" x 37" (1-1/16 JIC) Black Hose Assembly	4
45	25-502	Bulkhead Tee (1-1/16 JIC) Hydraulic Fitting	2
46	82-299	Tube Hose Clamp	4 / 8
47	62-118	3/8NC x 2-1/2" GD5 Cap Screw	4 / 8
48	63-134	3/8NC Nylon-Top Lock Nut	4 / 8
49	64-176	3/8" STD. Flat Washer	4 / 8
★ Check pump ports before ordering			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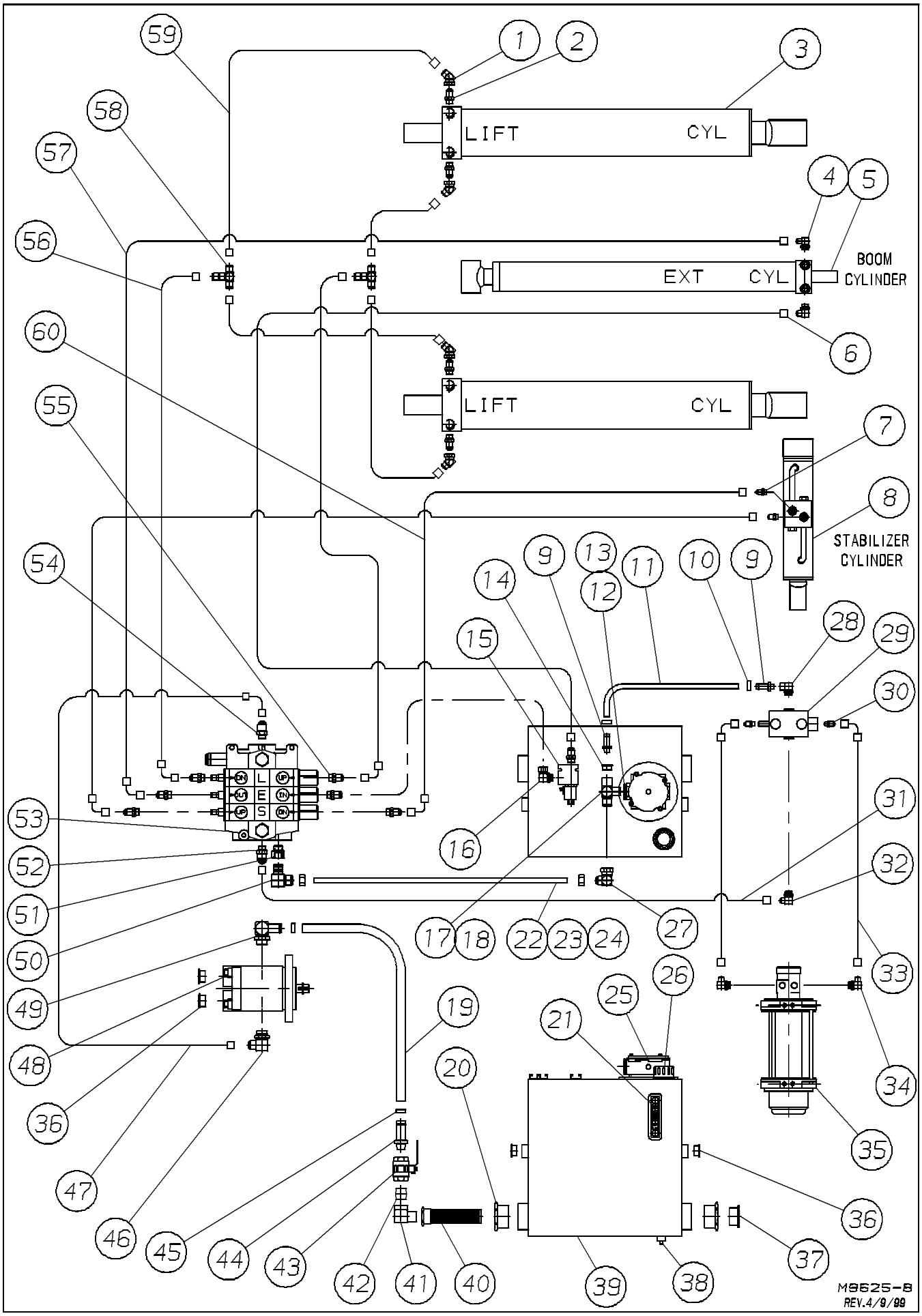
HYDRAULICS (50 GALLON TANK)

FOR MODELS - KP625 / KP630 SERIAL# 1015 TO 1048

8/00

Item	Part Number	Part Description	Qty.
1	25-346	1-1/16(M) JIC to 1-1/16(F) JIC Swivel 45° Hydraulic Fitting	4
2	25-342	1-1/16(M) O-Ring to 1-1/16(M) JIC Hydraulic Fitting	4
3	23-712	4" x 62" D.A. Hydraulic Cylinder	1
4	23-710	6-1/2" x 87" D.A. Hydraulic Cylinder (Model KP625)	2
	23-711	7" x 87" D.A. Hydraulic Cylinder (Model KP630)	2
5	25-561	7/8(M) O-Ring to 1-1/16(M) JIC 90° Hydraulic Fitting	2
6	82-303	Hose Clamp	2
7	24-657	3/4" x 62" (1-1/16JIC x 90°) Hose Assembly	2
8	24-640	3/4" x 62" (1-1/16 M/F) Black 3000 PSI Hose Assembly	2
9	25-604	1-1/16(M)JIC to 3/4(M)JIC Hydraulic Fitting	2
10	25-300	3/4(M) O-Ring to 3/4(M) JIC Hydraulic Fitting	2
11	24-393R	1/2" x 36" (3/4JIC) Black 3000 PSI Hose Assembly	2
12	75-141	1-1/4NPT Close Nipple	1
13	25-2387	1-1/4(F) NPT to 1-1/4(F) NPT Ball Valve	1
14	25-1178	1-1/4(M) NPT to 1-1/4 Hose End Hydraulic Fitting	1
15	24-1136	1-1/4" x 94" 100R4 Hose	1
16	25-487	1-5/16" x 2-1/4" Hose Clamp	4
17	★ 25-343	1-5/8(M) O-Ring to 1-1/4" Hose End x 90° Hydraulic Fitting	1
	★ 25-170	1-1/4NPT to 1-1/4 Hose 90° Hydraulic Fitting	1
18	75-161	1-1/4NPT Square Head Black Pipe Plug	3
19	23-713	4" x 12-1/2" D.A. Cylinder	1
20	25-523	1-1/4(M) NPT to 1-1/4(F) NPT x 90° Hydraulic Fitting	1
21	25-233	25 GPM Oil Strainer	1
22	25-162	1-1/4(M) NPT to 1-1/4" Hose End Hydraulic Fitting	1
23	25-2247	Oil Filter Assembly	1
	25-2430	Service Element	1
24	25-2249	Air Filter	1
25	25-235	Sight Gauge w/ Temperature 5"	1
26	24-198	1-1/4" x 30" 100R4 Hose	1
27	9274-128-0	Hydraulic Tank Weldment	1
28	25-338	1-5/8(M) O-Ring to 1-1/4(F) NPT x 90° Hydraulic Fitting	1
29	25-601	1-1/4(F) NPT to 1-1/4 Hose End x 90° Hydraulic Fitting	1
30	25-2421	39 GPM Pump (Commercial Intertech)	1
31	★ 25-344	1-5/8(M) O-Ring to 1-5/16(M) JIC 90° Hydraulic Fitting	1
	★ 25-602	1-1/4(M) NPT to 1-5/16(M) JIC 90° Hydraulic Fitting	1
32	24-648	1" x 96" (1-5/16JIC) 90° Black Hose Assembly	1
33	25-350	1-5/16(M) O-Ring to 1-5/16(M) JIC Hydraulic Fitting	1
34	25-333	1-5/16(M) O-Ring to 1-1/16(M) JIC Hydraulic Fitting	4 to 6
35	25-583	1-1/16(M) O-Ring to 1-1/16(F) JIC Swivel 90°Hydraulic Fitting	1
36	24-640	3/4" x 62" (1-1/16 M/F) Black 3000 PSI Hose Assembly	3
37	79-508	40 GPM Solenoid Valve	1
38	25-342	1-1/16(M) O-Ring to 1-1/16(M) JIC Hydraulic Fitting	1
39	24-656	3/4" x 60" (1-1/16 JIC) Black 3000 PSI Hose Assembly	2
40	24-431	Hydraulic Tube Assembly - 187" Long	2 to 4
41	24-603	3/4" x 37" (1-1/16 JIC) Black Hose Assembly	4
42	25-502	Bulkhead Tee (1-1/16 JIC) Hydraulic Fitting	2
43	25-2461	Hydraulic Valve Assembly (2-Spool)	1
	25-2462	Hydraulic Valve Assembly (3-Spool)	1
44	75-217	Nipple 1-1/4" x 6" Galvanized Pipe Assembly	1
45	82-299	Tube Hose Clamp	4 / 8
46	62-118	3/8NC x 2-1/2" GD5 Cap Screw	4 / 8
47	63-134	3/8NC Nylon-Top Lock Nut	4 / 8
48	64-176	3/8" STD. Flat Washer	
★ Check pump ports before ordering			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HYDRAULICS

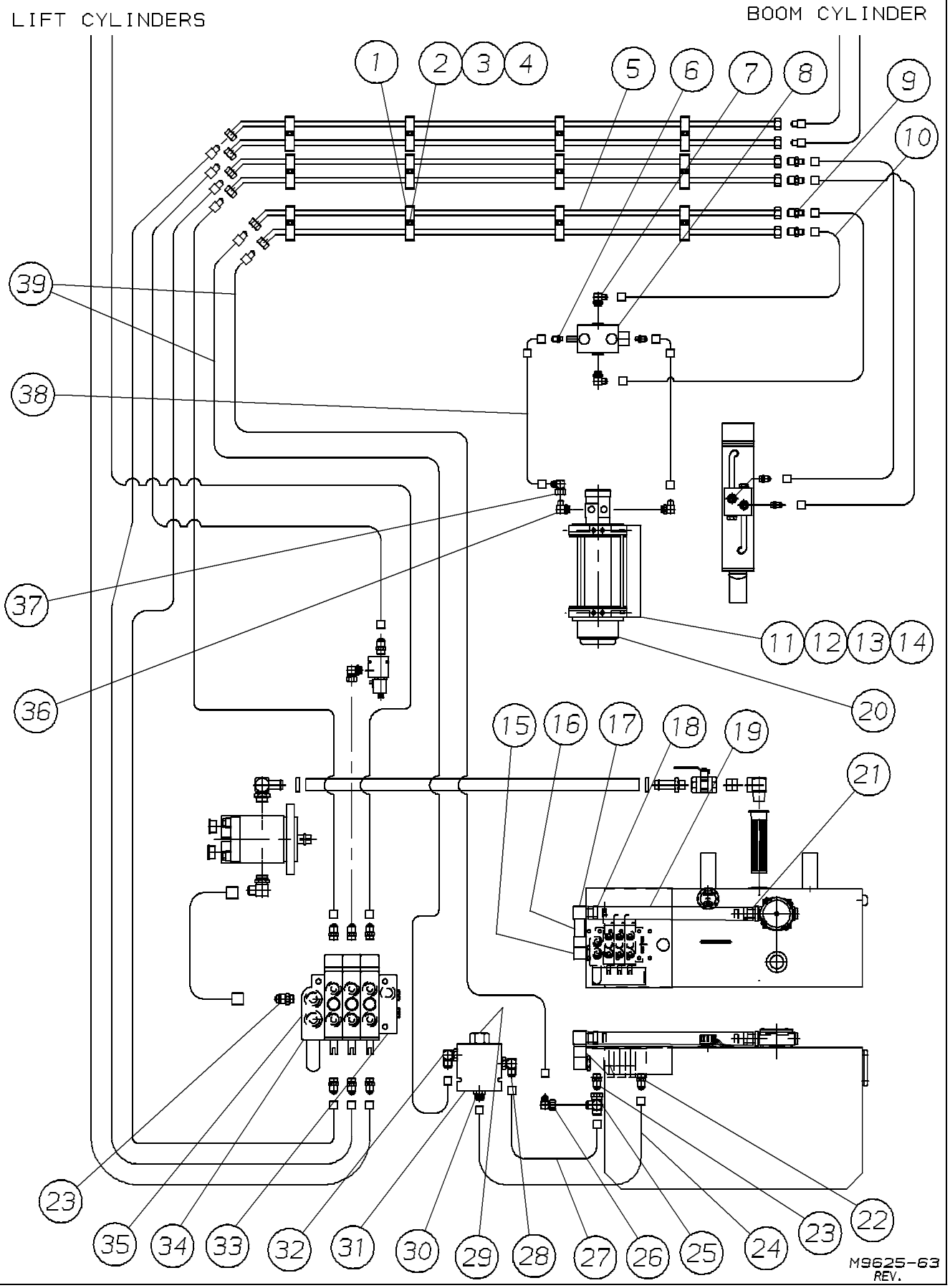
FOR MODELS - KP625 / KP630 SERIAL# 1001 TO 1015

7/99

Item	Part Number	Part Description	Qty.
1	25-346	1-1/16(M) JIC to 1-1/16(F) JIC Swivel 45° Hydraulic Fitting	4
2	25-342	1-1/16(M) O-Ring to 1-1/16(M) JIC Hydraulic Fitting	4
3	25-710	6-1/2" x 87" D.A. Hydraulic Lift Cylinder - Model KP625	2
	23-711	7" x 87" D.A. Hydraulic Lift Cylinder - Model KP630	2
4	25-561	7/8 O-Ring to 1-1/16(M) JIC 90° Hydraulic Fitting	2
5	23-712	4" x 62" Hydraulic Boom Cylinder	1
6	24-645R	3/4" x 336"(JIC) Black 2W Hose	1
7	25-300	3/4(M) O-Rnig to 3/4(M) JIC Hydraulic Fitting	2
8	23-713	4" x 12-1/2" D.A. Hydraulic Stabilizer Cylinder	1
9	25-1180	1/2(M) NPT to 3/4" Hose Hydraulic Fitting	1
10	25-494	Hose Clamp, 1-3/16" to 1-3/8"	2
11	24-1114	3/4" Low Pressure Bulk 100R4 Hydraulic Hose - 16 Ft.	1
12	25-1182	1-1/2NPT to 3/4NPT Hex Reducer (STD Unit)	1
13	25-1187	1-1/2NPT to 1NPT Hex Reducer (Winch Unit)	1
14	25-1184	1NPT to 3/4NPT Hex Reducer	1
15	79-508	40 GPM Solenoid Valve	1
16	25-583	1-1/16(M) O-Ring to 1-1/16 (F) JIC Swivel 90° Hydraulic Fitting	1
17	25-588	1-5/16(M) JIC to 3/4(M) NPT 90° Hydraulic Fitting	1
18	25-1186	1-5/16(M) JIC to 1(M/F) NPT Tee Winch Unit	1
19	24-1136	1-1/4" I.D. x 96" 100R4 Hose	1
20	75-210	3NPT to 2NPT Reducer Bushing	2
21	25-235	Sight Gauge w/ Temp. 5"	1
22	24-450	1" x 7-1/2" Hydraulic Tube	1
23	25-506	1" Flareless Tube Ferrule	2
24	25-554	1" Flareless Tube Nut	2
25	25-2247	In-Tank Filter	1
	25-2430	Service Element	1
26	25-215	Filler Cap Assembly	1
27	25-418	1-5/16(M) JIC to 1-5/16(F) JIC 90° Hydraulic Fitting	1
28	25-493	3/4(M) O-Ring to 1/2(F) NPT 90° Hydraulic Fitting	1
29	25-2394	Winch Control Valve	1
30	25-328	9/16(M) O-Ring to 3/4(M) JIC Hydraulic Fitting	2
31	25-619R	3/4" x 192" (1-1/16JIC) Black 2W 3000 PSI Hose Assembly	2
32	25-301	3/4(M) O-Ring to 3/4(M) JIC 90° Hydraulic Fitting	1
33	24-3002R	1/2" x 24" JIC 90° Black 2W Hose Assembly	2
34	25-485	3/4(M) JIC to 7/8(M) O-Ring 90° Hydraulic Fitting	2
35	82-250	12,000# Winch (30-286 Series)	1
36	75-161	1-1/4NPT Square Head Black Pipe Plug	4
37	75-160	2NPT Square Head Black Pipe Plug	1
38	25-2374	3/4NPT Magnetic Plug	1
39	25-2423	50 Gal. Hydraulic Tank Weldment	1
	25-2424	77 Gal. Hydraulic Tank Weldment	1
40	25-233	25 GPM Oil Strainer	1
41	25-523	1-1/4(M) NPT to 1-1/4(F) NPT 90° Hydraulic Fitting	1
42	75-141	1-1/4NPT Close Nipple	1
43	25-2387	1-1/4(F) NPT x 1-1/4(F) NPT Ball Valve	1
44	25-1178	1-1/4(M) NPT to 1-1/4 Hose Hydraulic Fitting	1
45	25-487	Hose Clamp (T-Bolt Type)	2
46	★ 25-344	1-5/8 O-Ring to 1-5/16 JIC 90° Hydraulic Fitting	1
	★ 25-602	1-1/4(M)NPT to 1-5/16(M)JIC 90° Hydraulic Fitting	1
47	24-648R	1" x 96" (1-5/16JIC) 90° Black 2W Hose Assembly	1
48	25-2421	39 GPM Pump (Commercial Intertech)	1
49	★ 25-343	1-5/8(M) O-Ring to 1-1/4" Hose 90° Hydraulic Fitting	1
	★ 25-170	1-1/4NPT to 1-1/4 Hose 90° Hydraulc Fitting	1
50	25-587	1-5/16(F) JIC to 1NPT 90° Hydraulic Fitting	1
51	25-402	1-5/16(M) O-Ring to 1(F) NPT Hydraulic Fitting	1
52	25-359	1-5/16 (M) O-Ring to 1-1/16(M) JIC Hydraulic Fitting	1
53	25-2405	40 GPM 2-Spool Control Valve Assembly	1
54	25-359	1-5/16(M) O-Ring to 1-1/16(M) JIC Hydraulic Fitting	1
55	25-342	1-1/16(M) O-Ring to 1-1/16(M) JIC Hydraulic Fitting	6
56	24-647R	3/4" x 62" (1-1/16JIC) 90° Black 2W Hose Assembly	2
57	24-646R	3/4" x 336" (1-1/16JIC) 90° Black 2W Hose Assembly	1
58	25-502	1-1/16(M) Bulkhead Tee Hydraulic Fitting	2
59	24-603R	3/4" x 37" (1-1/16JIC) Black Hose Assembly	4
60	24-398R	1/2" x 277" Hose Assembly	2

★ Check pump ports before ordering

HYDRAULIC WINCH WITH STABILIZER

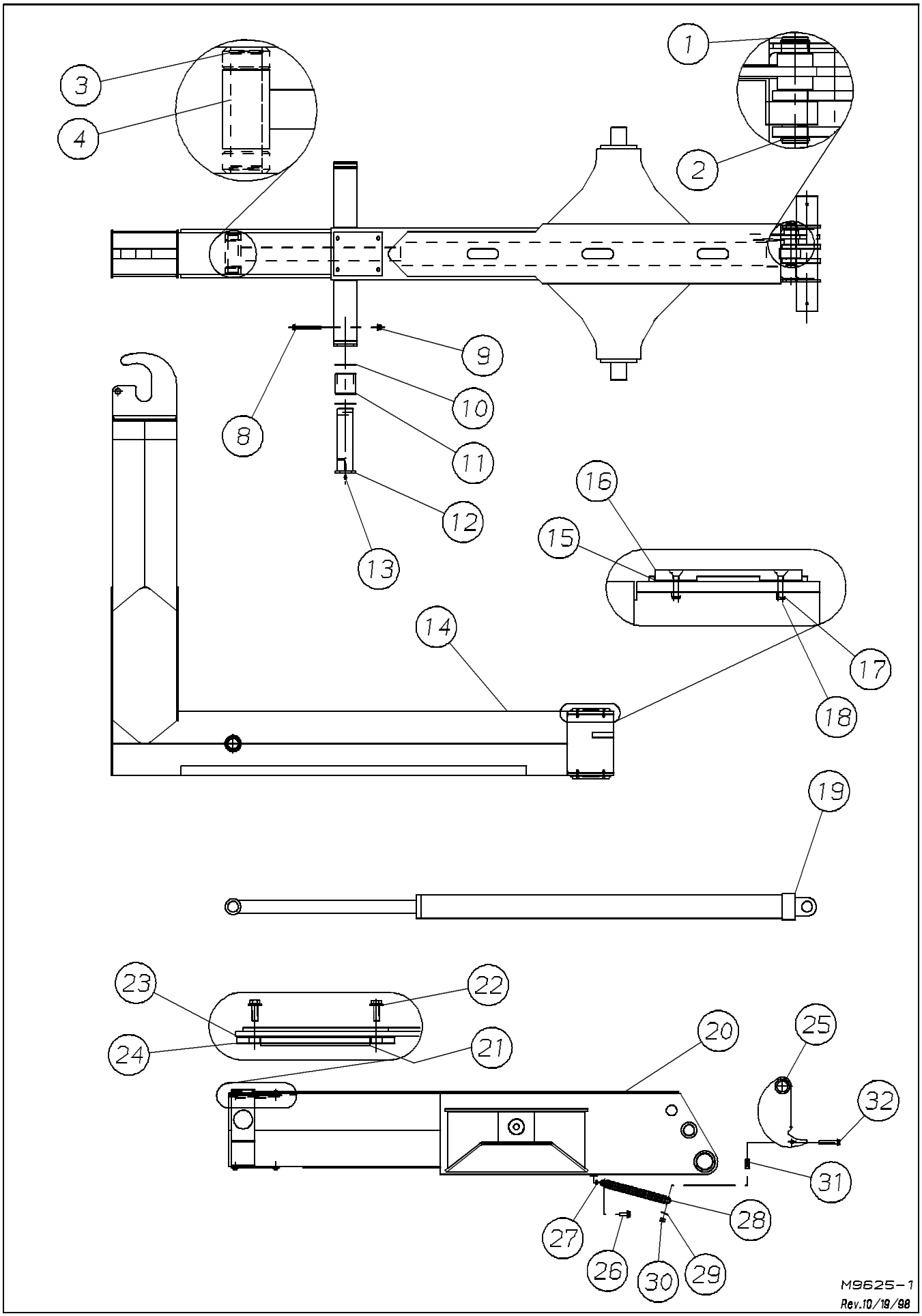


WINCH HYDRAULICS

FOR MODELS - KP625 / KP630 SERIAL# 1015 & HIGHER

2/03

Item	Part Number	Part Description	Qty.
1	82-299	Tube - Hose Clamp	8
2	62-118	3/8NC x 2-1/2" GD5 Cap Screw	4
3	63-134	3/8NC Nylon-Top Lock Nut	4
4	64-104	3/8" STD. Flat Washer	4
5	24-431	Hydraulic Tube Assembly - 187" Long	2
6	25-300	3/4(M) O-Ring to 3/4(M) JIC Hydraulic Fitting	2
7	25-301	3/4(M) JIC to 3/4(M) O-Ring 90° Hydraulic Fitting	2
8	25-2394	Winch Control Valve	1
9	25-604	1-1/4(M)JIC to 3/4(M) JIC Hydraulic Fitting	2
10	24-388R	1/2" x 51" 3/4 JIC Black 2W Hose Assembly	2
11	82-295	Hd. Roller Fairhead for 10" Drum	1
12	82-251	Tensioner (Wire Rope) Kit 10" Drum	1
13	82-252	Cable w/ Hook	1
14	62-813	M12 x 1-3/4" x 45mm x 8-7/8" Cap Screw	4
15	25-338	1-5/8(M) O-Ring to 1-1/4(F) NPT x 90° Hydraulic Fitting	1
16	75-217	Nipple 1-1/4" x 6" Galvanized Pipe Assembly	1
17	25-601	1-1/4(F) NPT to 1-1/4" Hose End x 90° Hydraulic Fitting	1
18	25-487	1-5/16" x 2-1/4" Hose Clamp	2
19	24-1113	Low Pressure Hose 1-1/4" (Cut to Fit)	3 Ft.
20	82-250	12,000 lb. Winch	1
21	25-559	1-5/16(M) O-Rng to 1-5/16(M) JIC Hydraulic Fitting	1
22	25-345	1-5/8(M) O-Ring to 1-5/16(M) JIC Hydraulic Fitting	1
23	24-653	1" x 37" (1-5/16JIC) 3000 PSI Black Hose Assembly	1
24	25-419	1-5/16(M/F) JIC Swivel Tee Hydraulic Fitting	1
25	25-598	1-1/16(M) JIC to 1-5/16(F) JIC Swivel 90° Hydraulic Fitting	2
26	24-603	3/4 x 37" (1-1/16 JIC) Black Hose Assembly	1
27	25-357	1-1/16(M) O-Ring to 1-1/16(M) JIC x 90° Hydraulic Fitting	1
28	25-2459	Priority Flow Divider Cartridge	1
29	25-559	1-5/16(M) O-Ring to 1-5/16(M) JIC Hydraulic Fitting	1
30	25-2460	Priority Flow Divider Body	1
31	25-382	1-5/16(M) O-Ring to 1-5/16(M) JIC x 90° Hydraulic Fitting	1
32	25-2463	Power Beyond Outlet Cover (Gresen)	1
33	25-2506	Inlet Cover (Gresen 1-5/8 Ports)	1
34	25-2507	Stud (Gresen) - for power beyond	4
35	25-485	3/4(M) JIC to 7/8(M) O-Ring x 90° Hydraulic Fitting	2
36	25-320	3/4(M) JIC to 3/4(F) Swivel x 90° Hydraulic Fitting	1
37	24-3018	1/2" x 68" JIC 90° Black Hose Assembly	2
38	24-640	3/4" x 70" (1-1/16 M/F) Black Hose Assembly	2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INNER - OUTER BOOM ASSEMBLY

FOR MODELS -

4/00

Item	Part Number	Part Description	Qty.
1	9625-00-28	Extension Cylinder Head Pin	1
2	99-199	2" Retaining Ring	2
3	99-204	2" Internal Retaining Ring	2
4	9625-00-14	Extension Cylinder Rod	1
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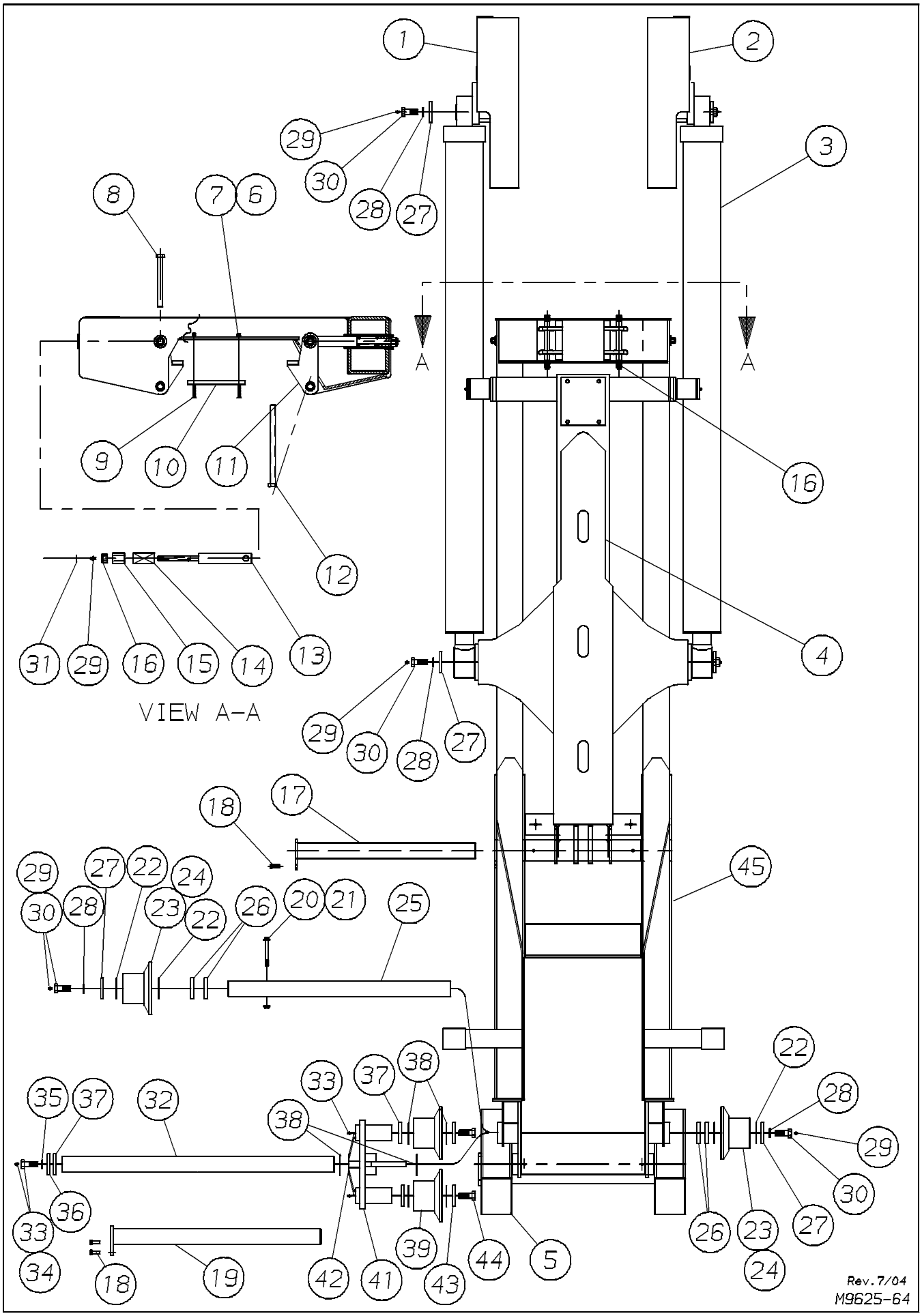
7			
8	62-768	1/2NC x 5" Hex Flange Cap Screw	2
9	63-146	1/2NC Hex Flange Serrated Nut	2
10	64-208	Machine Bushing	4
11	9625-12-0	Roller Assembly	2
12	9625-11-0	Roller Pin Weldment	2
13	65-113	Zerk	4
14	9625-362-0	Inner Boom Weldment 62"	1
15	9625-00-21	Inner Boom Shiim	2
16	9625-00-18	Nylatron Pad	2
17	63-164	1/4NC Nylon-Top Lock Nut	8
18	62-770	1/4NC x 1-1/2" Flat Countersunk Head Cap Screw	8
19	23-712	Boom Extension Cylinder	1
20	9625-438-0	Outer Boom Weldment	1
21	9625-00-19	Nylatron Pad	2
22	62-769	3/8NC x 1" Hex Flange Serrated Bolt	8
23	9625-00-20	Pad Retainer Shin	2
24	9625-00-17	Pad Retainer	2
25	9625-40-0A	Frame Latch Weldment	1
26	62-343	1/2NC x 2" GD5 Cap Screw	1
27	9625-40-4	Bushing - Spring	1
28	76-182	Spring	1
29	64-108	1/2" STD. Flat Washer	2
30	63-108	1/2NC Nylon-Top Lock Nut	2
31	9625-40-8	Bushing - Spring	1
32	62-591	1/2NC x 3" Full Thread Bolt	1


VIEW A-A
Rev.7/04
M9625-64

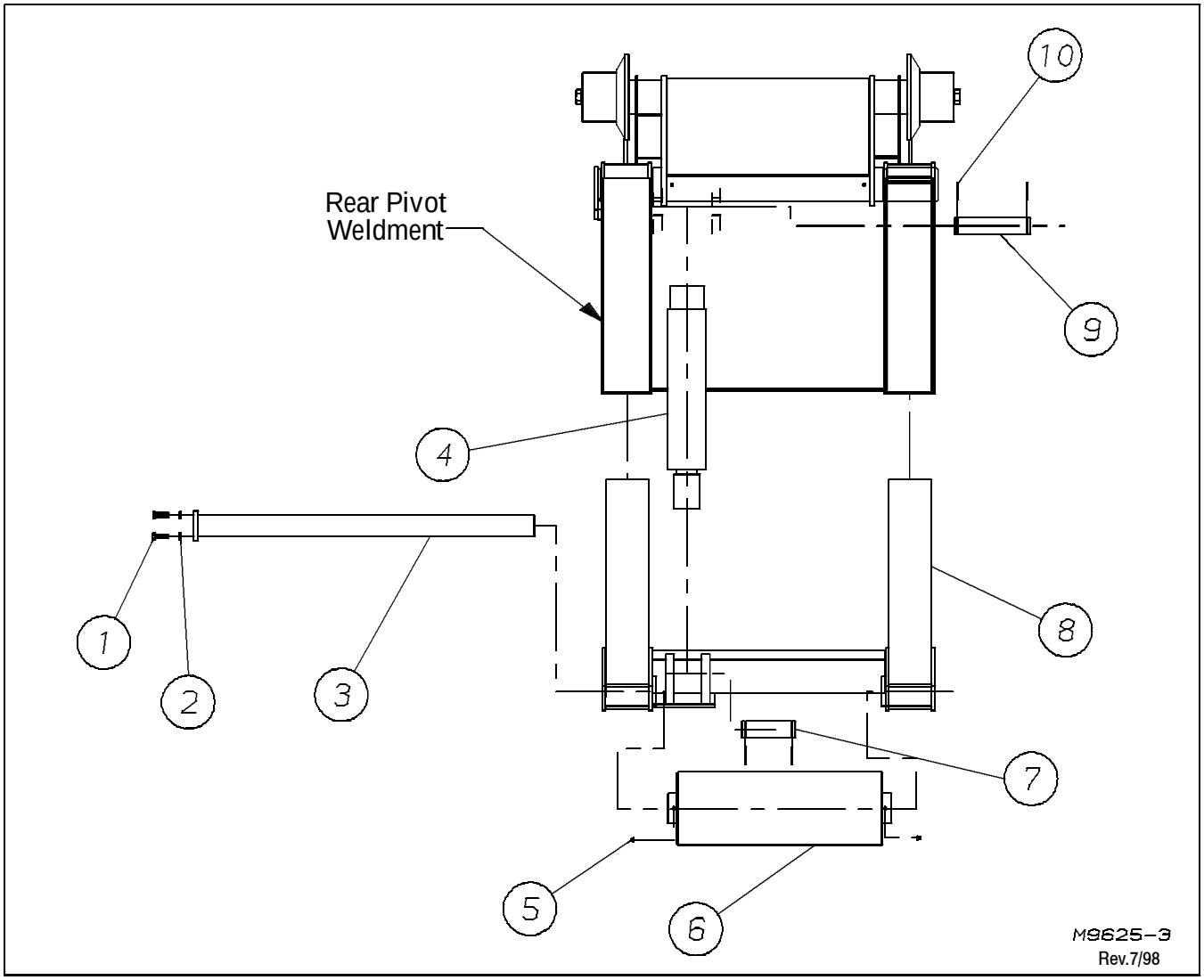
MAIN ASSEMBLY

FOR MODELS -

3/05

Item	Part Number	Part Description	Qty.
1	9625-625-0	Left Saddle Weldment	1
2	9625-650-0	Right Saddle Weldment	1
3		Lift Cylinder - See HYDRAULICS	2
4		See INNER-OUTER BOOM ASSEMBLY	1
5	9625-500-0	Rear Pivot Weldment	1
6	63-164	1/4NC Nylon-Top Lock Nut	4
7	64-101	1/4" STD. Flat Washer	4
8	62-393	5/8NC x 6" Cap Screw	2
9	62-770	1/4NC x 1-1/2" Flat Countersunk Head Cap Screw	4
10	9625-00-18	Nylatron Pad	1
11	9625-700-0	Latch Weldment	2
12	62-613	5/8NC x 10" Cap Screw	2
13	9625-00-8	Locking Shaft	2
14	76-220	Spring	2
15	9625-00-9	Spring Retainer	2
16	63-152	5/8NC Nylon-Top Lock Nut	6
17	9625-14-0	Boom Pivot Pin	1
★	Parts for Single Roller (Shown on both sides of hoist)		
18	★ 62-569	1/2NC x 1-1/2" Cap Screw	4
19	★ 9625-16-0	Pivot Pin	1
20	★ 62-768	1/2NC x 5" Hex Flange Cap Screw	1
21	★ 63-146	1/2NC Hex Flange Serrated Nut	1
22	★ 64-208	Machine Bushing	4
23	★ 9625-10-0	Guide Roller Assembly (Includes Item 24)	2
24	★ 53-159	Bushing	2/Roller
25	★ 9625-00-4	Rear Roller Shaft	1
26	★ 9625-0-15	Spacer	4
27	★ 9625-00-12	Guide Roller Retainer	★2 / 4
28	★ 64-118	1" STD. Lock Washer	★2 / 4
29	★ 65-113	Zerk	★2 / 4
30	★ 9625-00-13	Special Bolt	★2 / 4
31	99-209	Retaining Ring	1
●	Parts for Double Roller (Shown on left side only)		
32	● 9625-0-13	Rear Pivot Shaft	1
33	● 65-113	Zerk	6
34	● 9625-00-13	Special Bolt	2
35	● 64-118	1" STD. Lock Washer	2
36	● 9625-00-12	Guide Roller Retainer	●2 / 4
37	● 9625-0-15	Spacer	6
38	● 64-208	Machine Bushing	12
39	● 9625-10-0	Guide Roller Assembly (Includes Item 40)	4
40	● 53-159	Bushing	2/Roller
41	● 9625-25-0	Double Roller Arm Weldment (Includes Item 42)	2
42	● 53-159	Bushing	2
43	● 9625-0-14	Guide Roller Retainer	4
44	● 62-236	1NC x 2-1/2" Cap Screw	4
45	9625-274-0	Main Frame Weldment	1

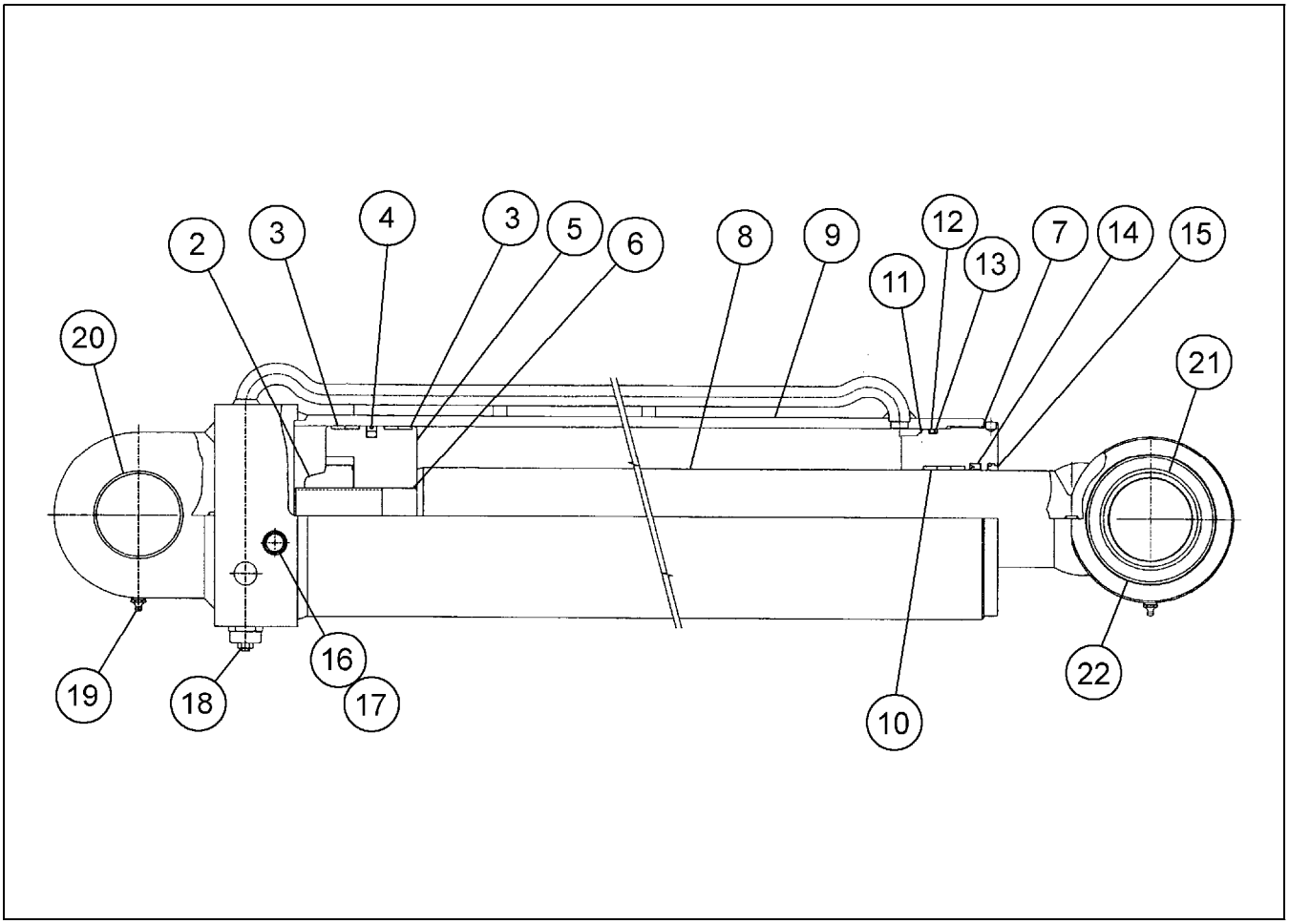
STABILIZER ASSEMBLY



FOR MODELS - 2/01

Item	Part Number	Part Description	Qty.
1	62-300	1/2NC x 1" GD5 Cap Screw	2
2	64-107	1/2" STD. Lock Washer	2
3	9625-820-0	Stabilizer Shaft Weldment	1
4		Hydraulic Cylinder - See "HYDRAULICS"	1
5	65-113	Zerk	2
6	9625-815-0	Stabilizer Roller Weldment	1
7	9625-08-2	Rod End Pin	1
8	9625-850-0A	Stabilizer Weldment	1
9	9625-08-1	Head End Pin	1
10	99-188	2" Retaining Pin	4

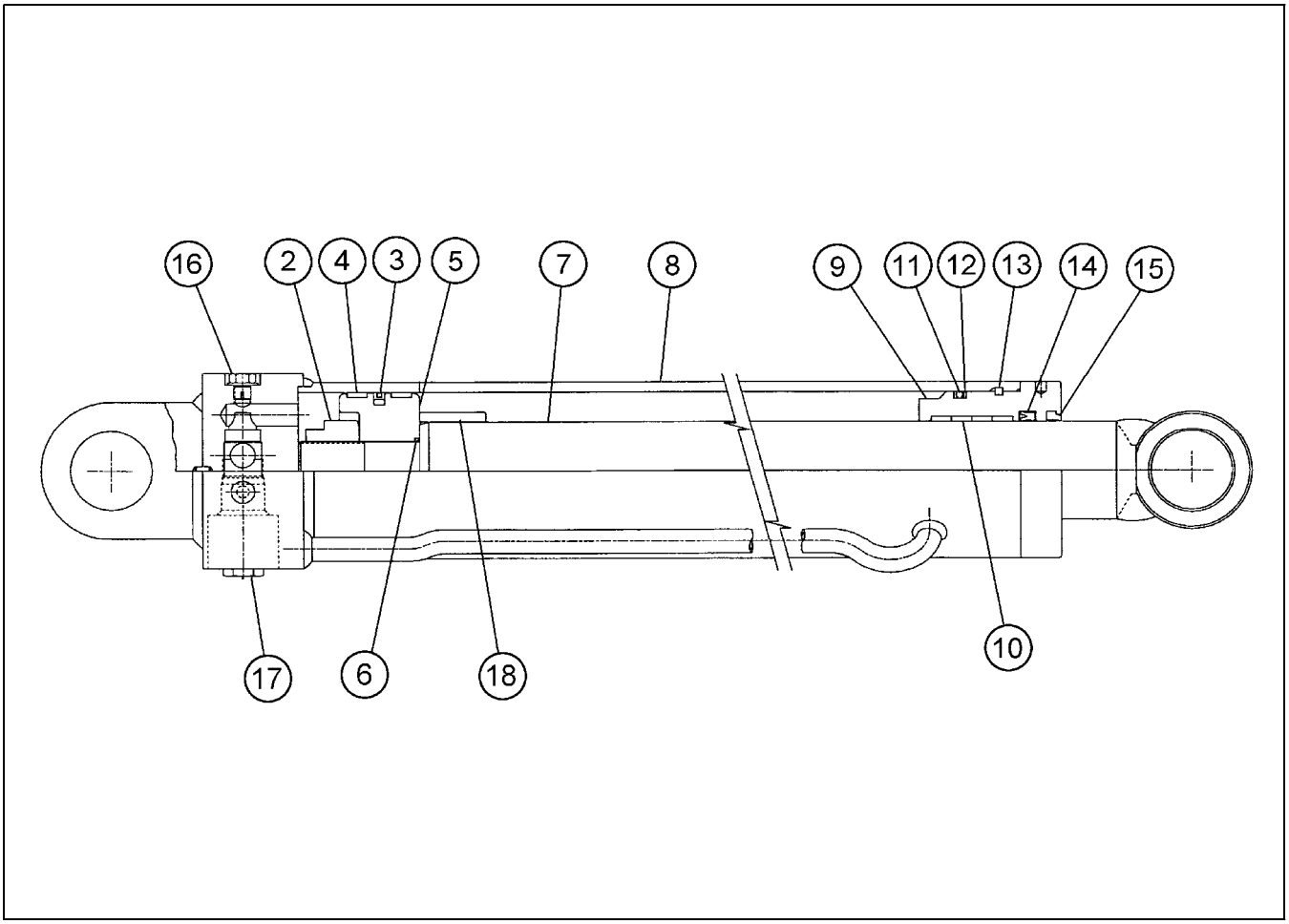
KP625 LIFT CYLINDER ASSEMBLY



23-710 6-1/2" x 87" Hydraulic Cylinder Assembly (LIFT) 2/03
Retracted - 106" Extended - 193" Stroke - 87" Rod Dia. - 3-1/2"

Item	Part Number	Part Description	Qty.
1		Manufacturer's Label - not shown	1
2		Lock Nut	1
3	★	Wear Ring	4
4	★	AQ Seal Assembly	1
5		Piston	1
6	★	O-Ring	1
7	★	O-Ring	1
8		Rod Assembly	1
9		Tube Assembly	1
10	★	Wear Ring	3
11		Head	1
12	★	O-Ring	1
13	★	Back-Up Washer	1
14	★	U-Cup, Dual Lip	1
15	★	Wiper, Loaded	1
16		Bleeder Plug	2
17		Washer Seal	2
18	25-2432	Counterbalance Valve	2
19		Lube Fitting	2
20		Bushing	1
21	40-169	Spherical Bushing	1
22	99-220	Retaining Ring	2
	23-811	Seal Kit (★ Items Included in Kit) - Green Hydraulics	
	23-900	Seal Kit (★ Items Included in Kit) - Texas Hydraulics	

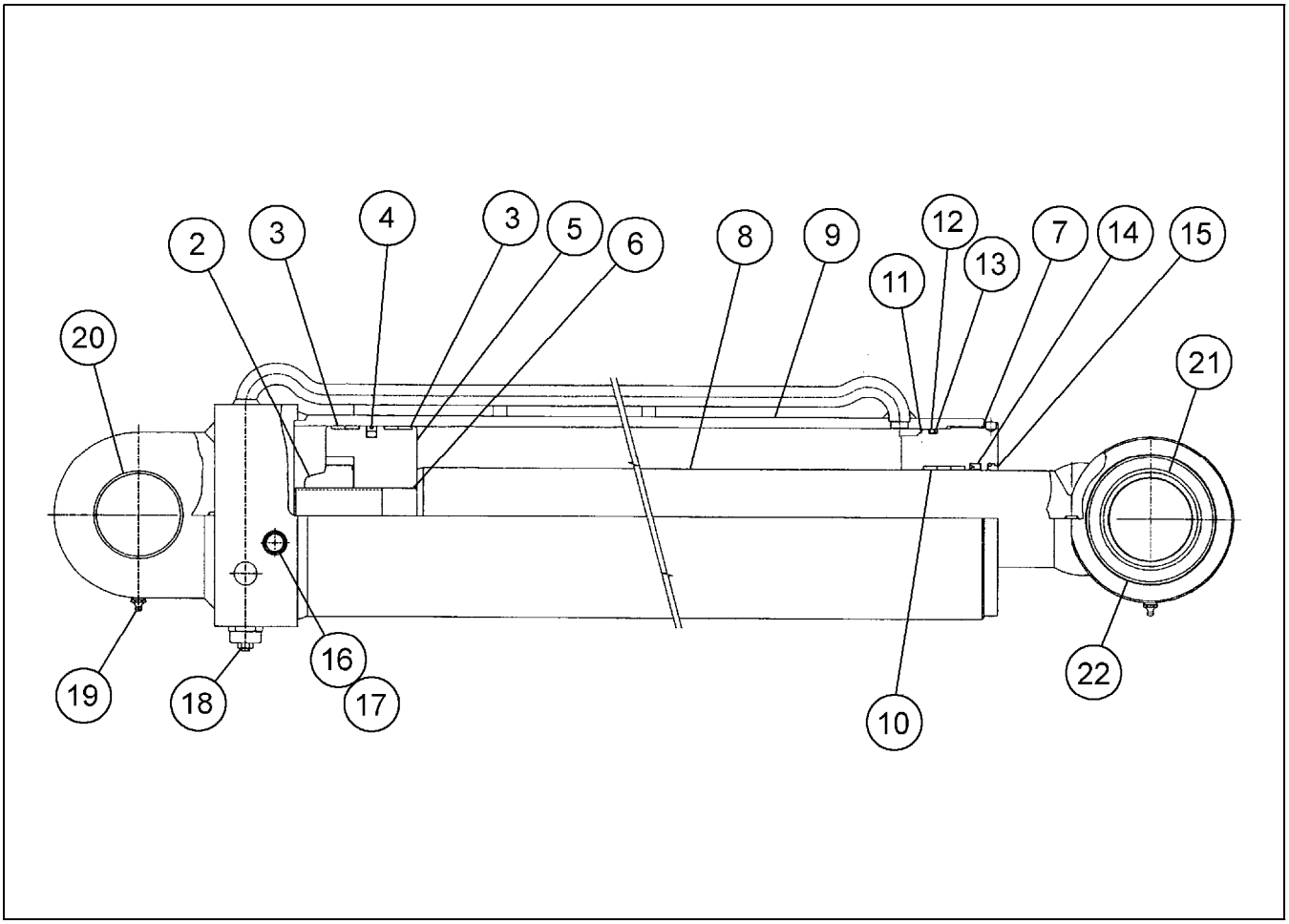
BOOM CYLINDER ASSEMBLY



23-712 4" x 62" Hydraulic Cylinder Assembly (EXTEND) 2/01
Retracted - 78" Extended - 140" Stroke - 62" Rod Dia. - 2-1/2"

Item	Part Number	Part Description	Qty.
1		Manufacturer's Label - not shown	1
2		Lock Nut	1
3	★	Seal	1
4	★	Wear Ring	2
5		Piston	1
6	★	O-Ring	1
7		Rod Assembly	1
8		Tube Assembly	1
9		Head	1
10	★	Wear Ring	4
11	★	O-Ring	1
12	★	Back-Up Washer	1
13		Retaining Ring	1
14	★	Seal	1
15	★	Wiper	1
16		Bleeder Plug	1
17	25-2433	Counterbalance Valve	1
18		Spacer	1
	23-814	Seal Kit (★ Items Included in Kit) - Green Hydraulics	
	23-901	Seal Kit (★ Items Included in Kit) - Texas Hydraulics	

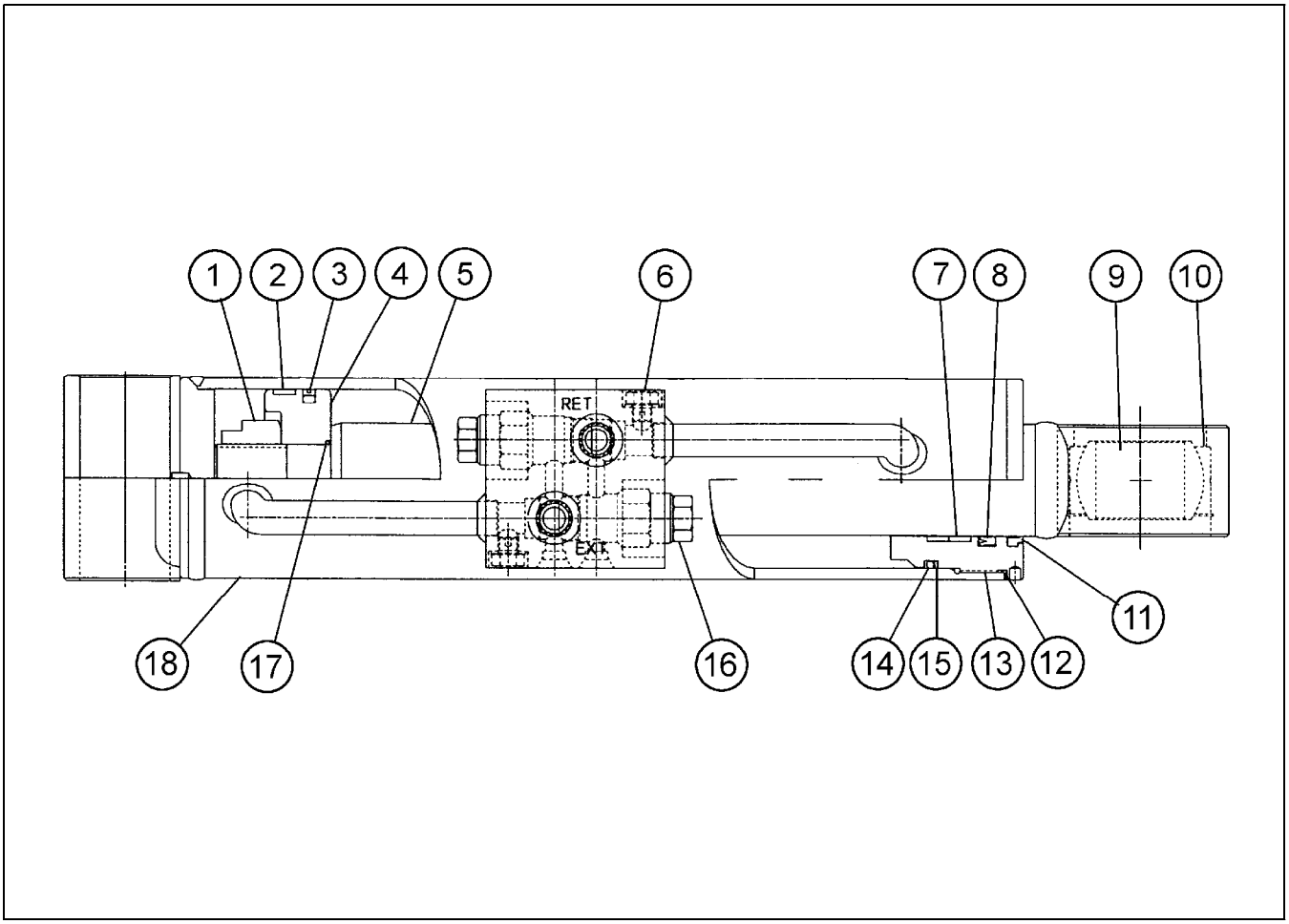
KP630 LIFT CYLINDER ASSEMBLY



23-711 7" x 87" Hydraulic Cylinder Assembly 2/03
Retracted - 106" Extended - 193" Stroke - 87" Rod Dia. - 3-3/4"

Item	Part Number	Part Description	Qty.
1		Manufacturer's Label - not shown	1
2		Lock Nut	1
3	★	Wear Ring	4
4	★	AQ Seal Assembly	1
5		Piston	1
6	★	O-Ring	1
7	★	O-Ring	1
8		Rod Assembly	1
9		Tube Assembly	1
10	★	Wear Ring	3
11		Head	1
12	★	O-Ring	1
13	★	Back-Up Washer	1
14	★	U-Cup, Dual Lip	1
15	★	Wiper, Loaded	1
16		Bleeder Plug	2
17		Washer Seal	2
18	25-2432	Counterbalance Valve	2
19		Lube Fitting	2
20		Bushing	1
21	40-169	Spherical Bushing	1
22	99-220	Retaining Ring	2
	23-812	Seal Kit (★ Items Included in Kit) - Green Hydraulics	
	23-902	Seal Kit (★ Items Included in Kit) - Texas Hydraulics	

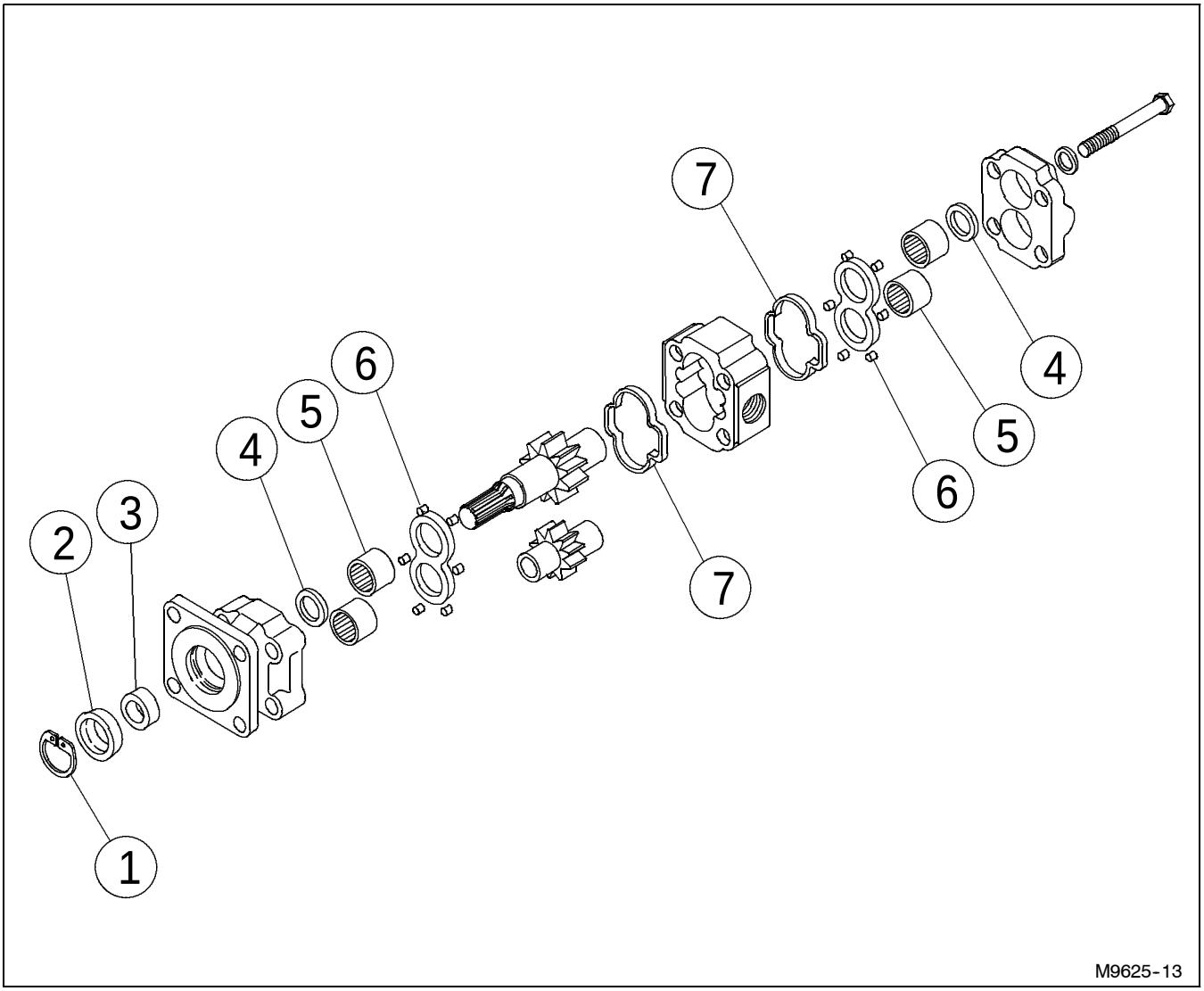
STABILIZER CYLINDER ASSEMBLY



23-713 4" x 12-1/2" Hydraulic Cylinder Assembly 2/01
Retracted - 22-3/4" Extended - 35-1/4" Stroke - 12-1/2" Rod Dia. - 2-1/2"

Item	Part Number	Part Description	Qty.
1		Full Lock Nut	1
2	★	Wear Ring	1
3	★	Seal	1
4		Piston	1
5		Rod Assembly	1
6		Bleeder Plug	2
7	★	Wear Ring	2
8	★	Seal	1
9		Spherical Bushing	1
10		Retaining Ring	1
11	★	Wiper	1
12	★	O-Ring	1
13		Head	1
14	★	O-Ring	1
15	★	Back-Up Washer	1
16	25-2433	Counterbalance Valve	2
17	★	O-Ring	1
18		Tube Assembly	1
	23-813	Seal Kit (★ Items Included in Kit) - Green Hydraulics	
	23-902	Seal Kit (★ Items Included in Kit) - Texas Hydraulics	

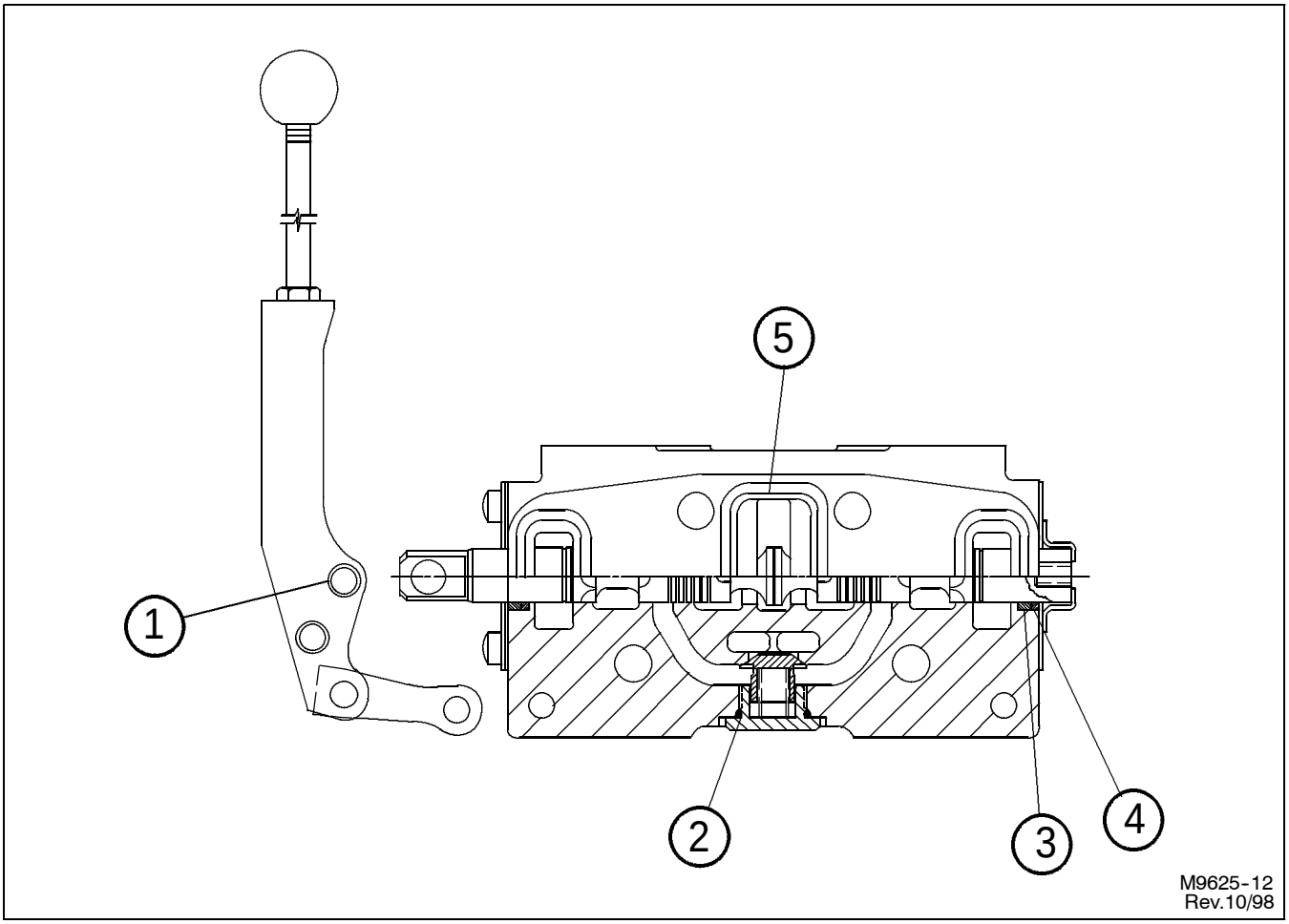
DIRECT MOUNT HYDRAULIC PUMP



FOR MODELS - 6/97

Item	Part Number	Part Description	Qty.
	25-2421	Gear Pump	1
1		Snap Ring	
2		Outboard Bearing	
3		Seal	
4		Shaft End Cover	
5		Check Assemblies or Plug	
6		Ring Seals	
7		Roller Bearings	
8		Pocket Seals	
9		Thrust Plates	
10		Integral Drive Shaft and Gear Set	
11		Gasket Seals	
12		Gear Housing	
13		Port End Cover	
14		Washer	
15		Stud or Cap Screw	
16		Nut	

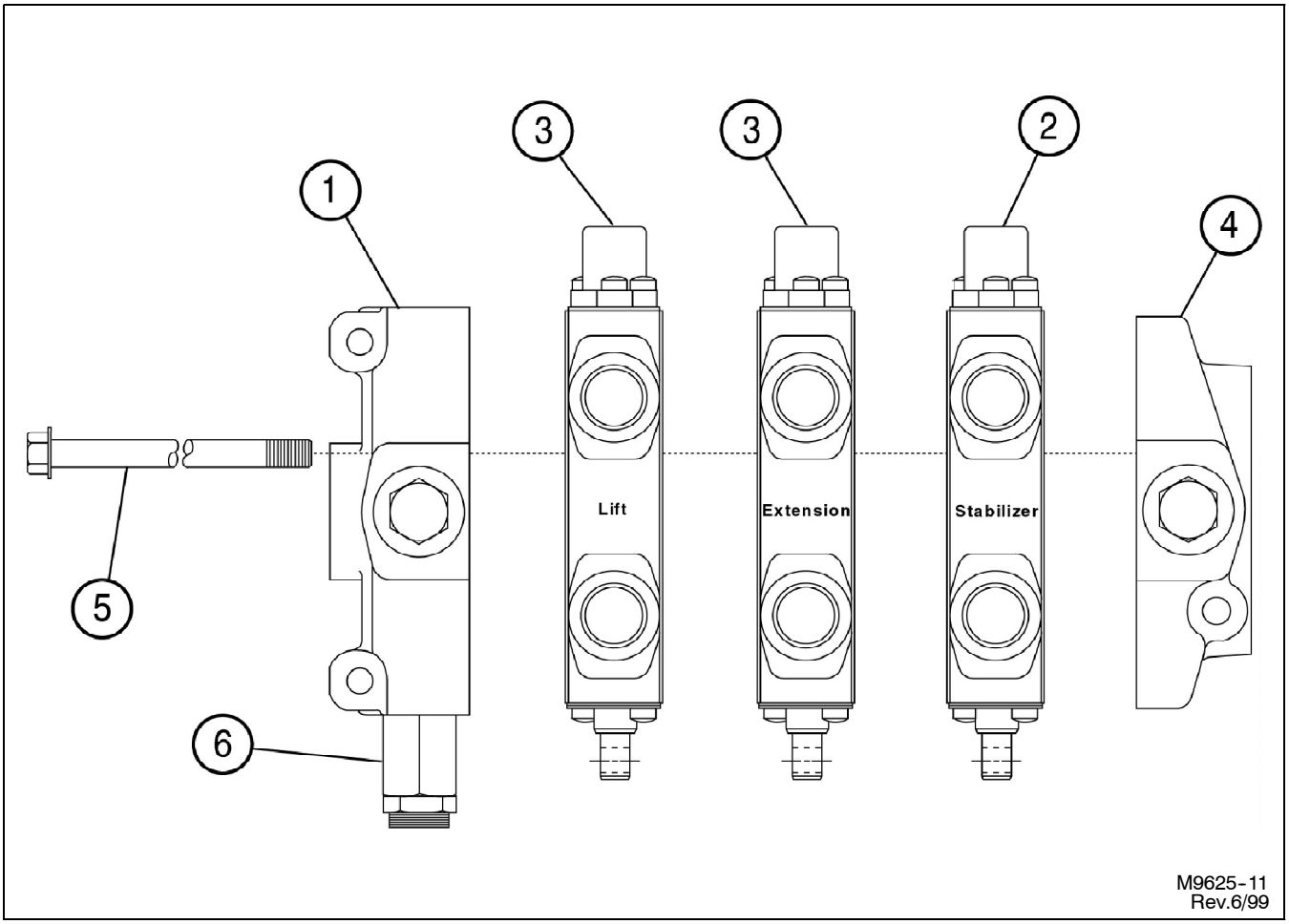
COMMERCIAL INTERTECH VALVE SECTION



FOR MODELS - Commercial Intertech Valve Work Sections 10/98

Item	Part Number	Part Description	Qty.
1	25-2254	Handle Service Kit (Includes Pins & Bushings)	1
2	25-2255	O-Ring	1
3	25-2262	O-Ring	2
4	25-2263	Teflon Back-Up Ring	2
5	25-2443	O-Ring Kit Section (1 Per Section)	1

COMMERCIAL INTERTECH VALVE

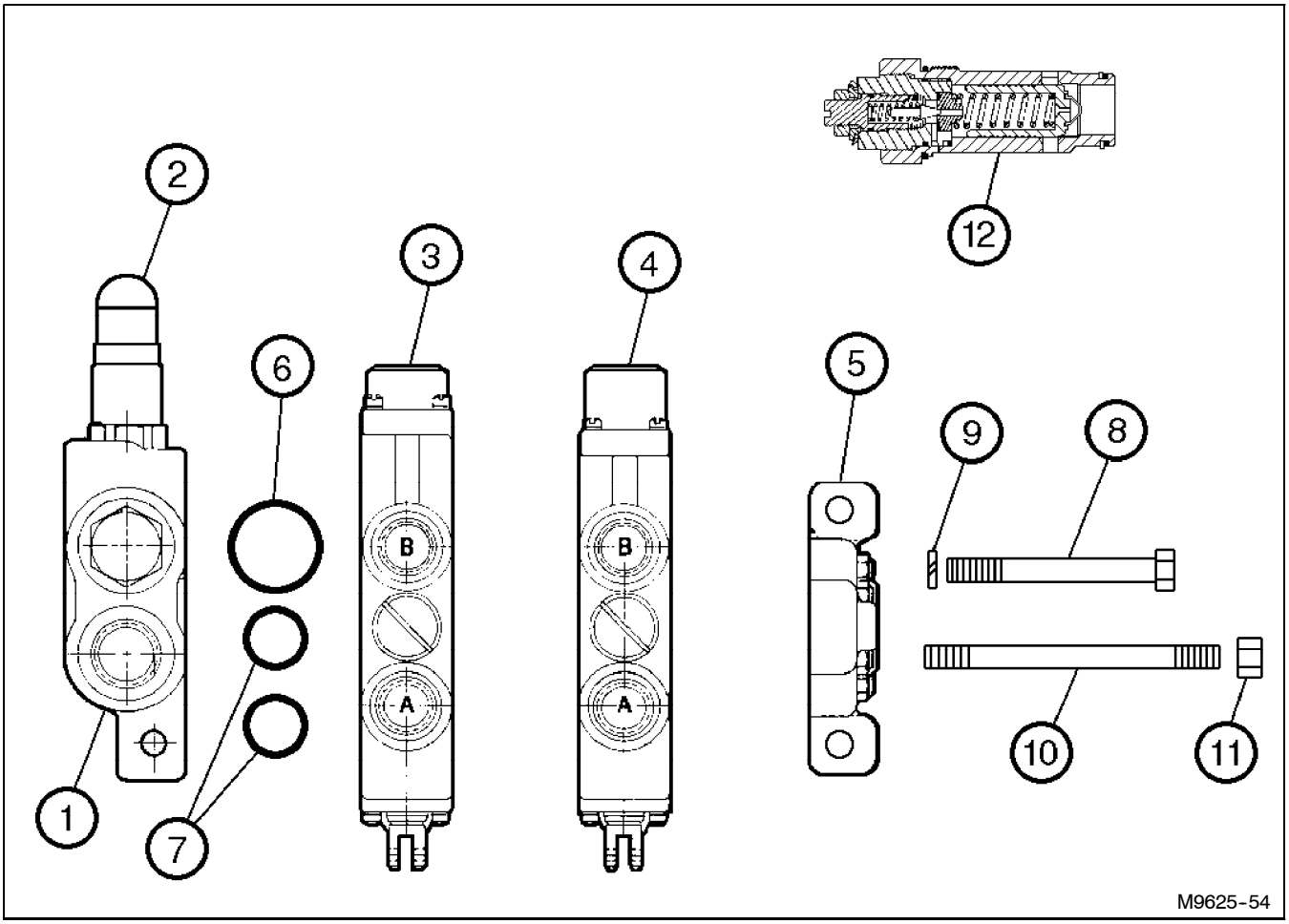


FOR MODELS - ALL

4/98

Item	Part Number	Part Description	Qty.
	25-2405	Hydraulic Valve Assembly - 2 Spool	1
1	25-2407	Inlet Section (AA880)	1
2	25-2428	4-Way Section - Free Flow (MA7)	1
3	25-2425	4-Way Section - Cylinder (DA7)	1
4	25-2429	Outlet Section (CY80080)	1
5	25-2453	Stud Bolt	
6	25-2261	Relief Valve	1
	25-2445	Hydraulic Valve Assembly - 3 Spool	1
1	25-2407	Inlet Section (AA880)	1
2	25-2428	4-Way Section - Free Flow (MA7)	1
3	25-2425	4-Way Section - Cylinder (DA7)	2
4	25-2429	Outlet Section (CY80080)	1
5	25-2426	Stud Bolt - Number contains 4 Bolts	1
6	25-2261	Relief Valve	1

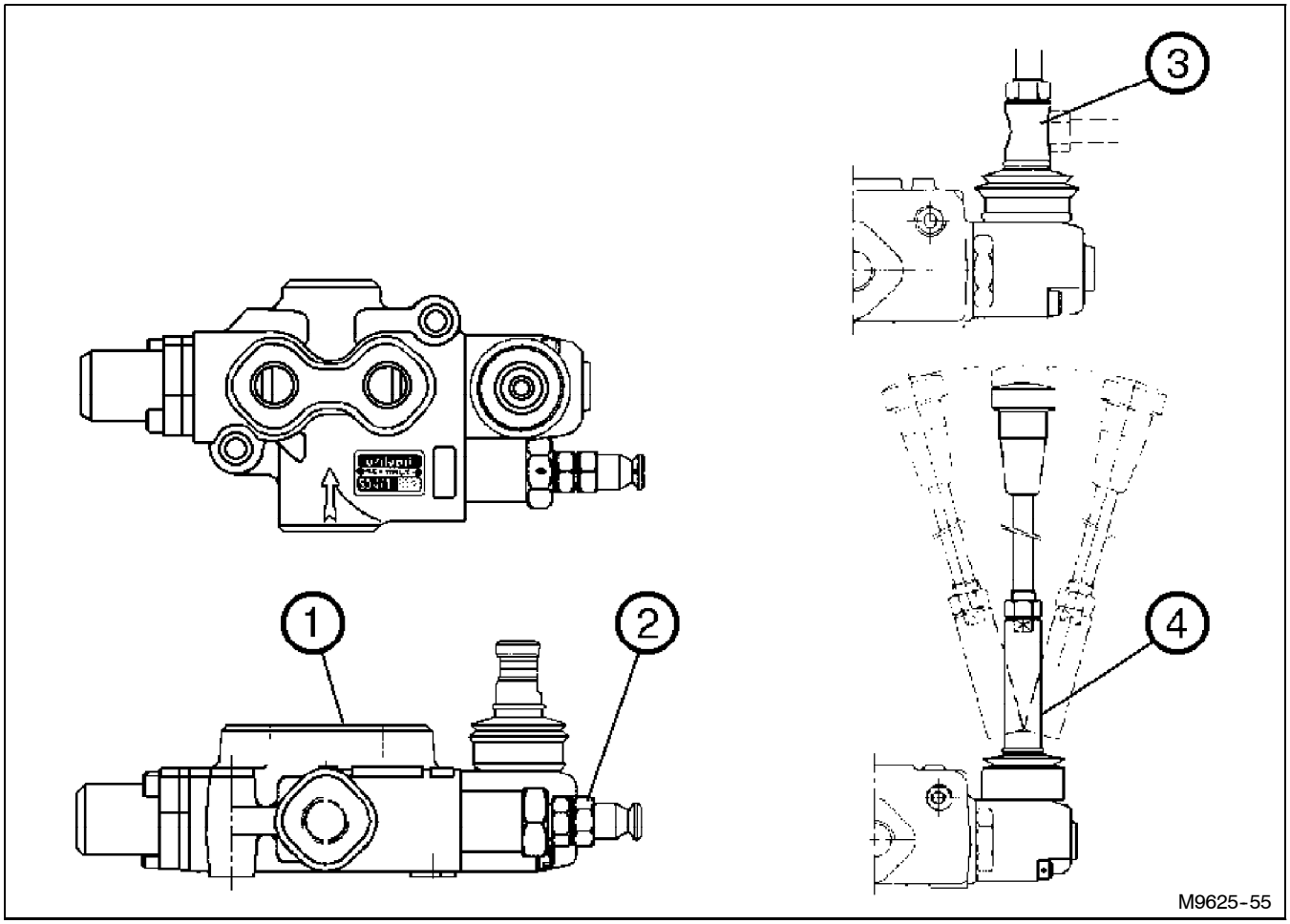
GRESEN VALVE PARTS



FOR MODELS - V42 VALVE w/o LOCKOUT 4/02

Item	Part Number	Part Description	Qty.
	25-2487	2-Spool Direct Control Valve	
	25-2488	3-Spool Direct Control Valve	
1	25-2213	Inlet Cover	1
2	25-2479	Relief Valve (Reset to 2800 PSI)	1
3	25-2477	Motor Section	1
4	25-2478	Cylinder Section	1
5	25-2214	Standard Outlet	1
	25-2463	Gresen Outlet - Power beyond	1
6	25-265	O-Ring, Large	1
7	25-266	O-Ring, Small	2
8	62-571	3/8NC x 5-1/2" GD5 Cap Screw (for 2-Spool Valve)	4
9	64-103	3/8" STD. Lock Washer	4
10	62-572	3/8NC x 8" Stud Bolt (for 3-Spool Valve)	4
11	63-103	3/8NC Hex Nut	4
12	25-2480	Relief Valve Seal Kit	1

WINCH VALVE PARTS

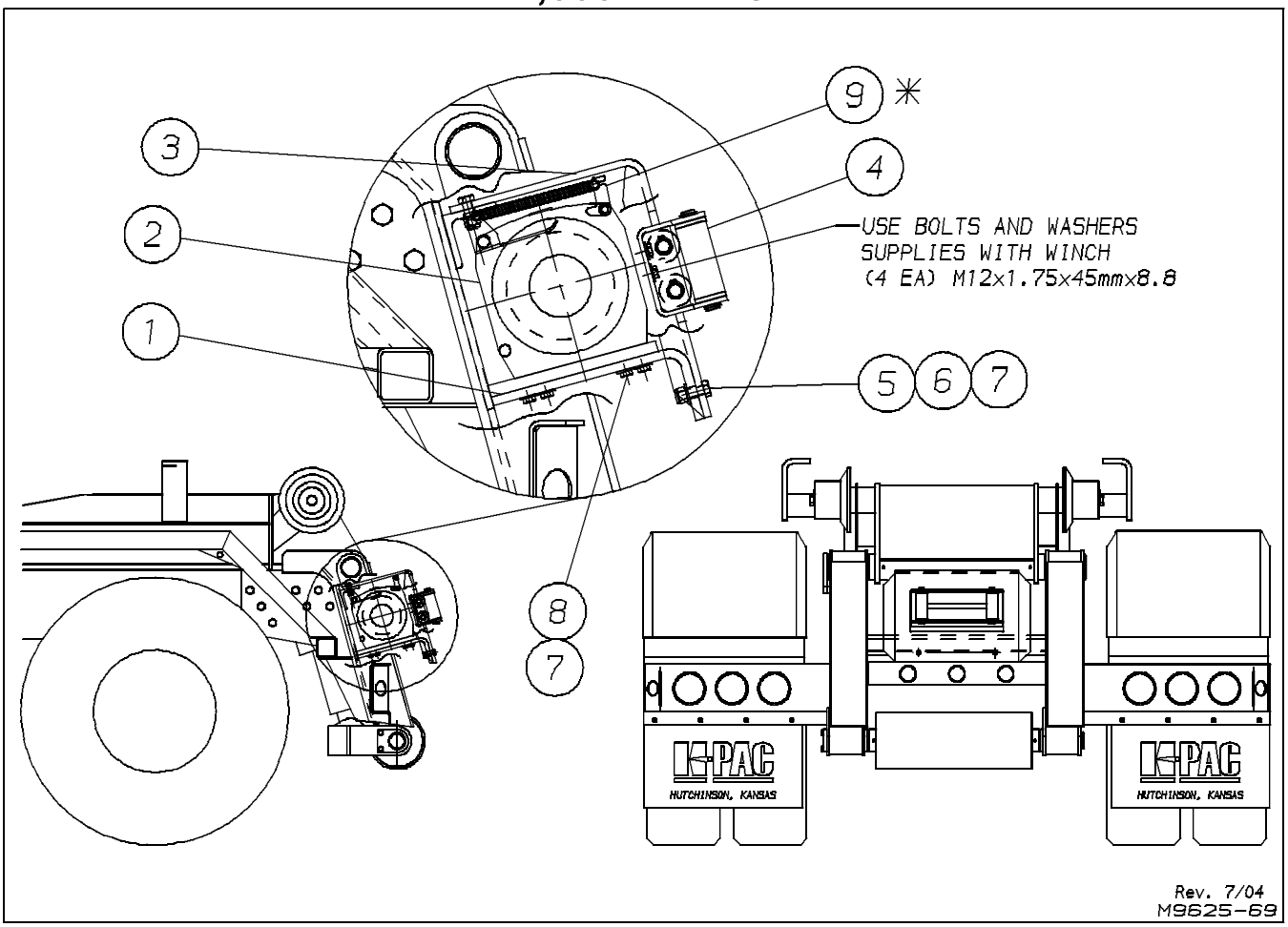


FOR MODELS -

6/99

Item	Part Number	Part Description	Qty.
1	25-2394	Winch Valve	1
2	25-2481	Relief Valve Assembly	1
3	82-296	Standard Lever	1
4	82-297	Standard Safety Lever	1
5			

12,000# WINCH

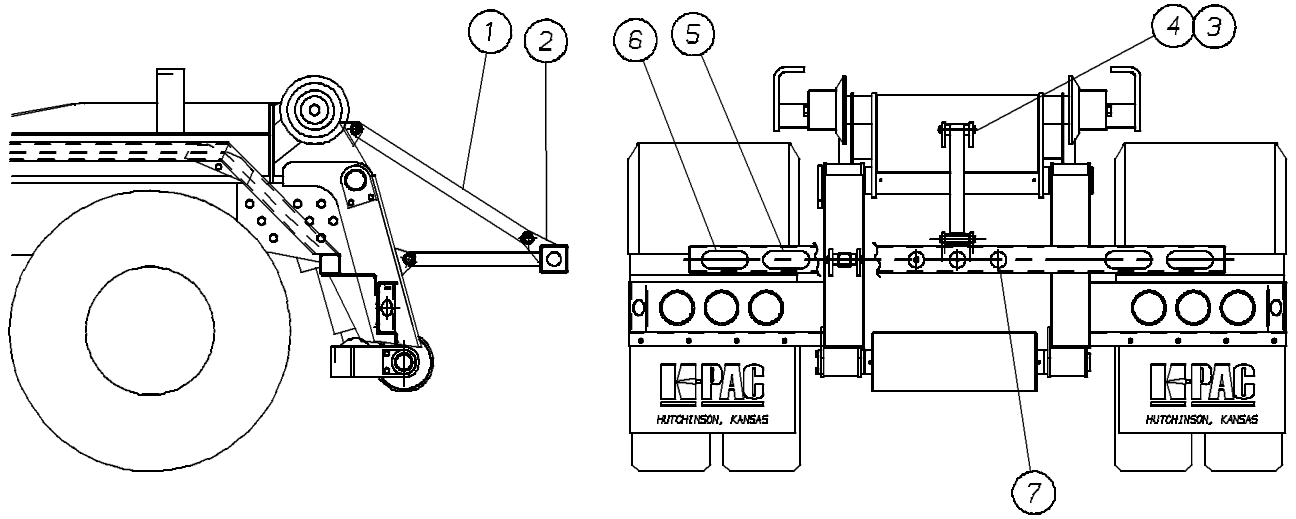


FOR MODELS - KP625 / KP630 2/03

Item	Part Number	Part Description	Qty.
1	9625-0-19	Winch Plate (Bolt-On)	1
2	82-250	12,000# Winch (30-286 Series)	1
3	9625-0-17	Winch Cover	1
4	82-252	HD Roller Fairlead	1
5	62-300	1/2NC x 1" GD5 Cap Screw	4
6	63-108	1/2NC Nylon-Top Lock Nut	4
7	64-108	1/2" STD. Flat Washer	8
8	62-813	M12 x 1.75 x 45mm x 8.8" Cap Screw	4
9	★ 82-251	Tensioner Wire Rope Kit 10" Drom	1

★ **Due to the winch close proximity to Back Plate, Tensioner may have to be installed in different location.**

FOLDING I.C.C. BUMPER



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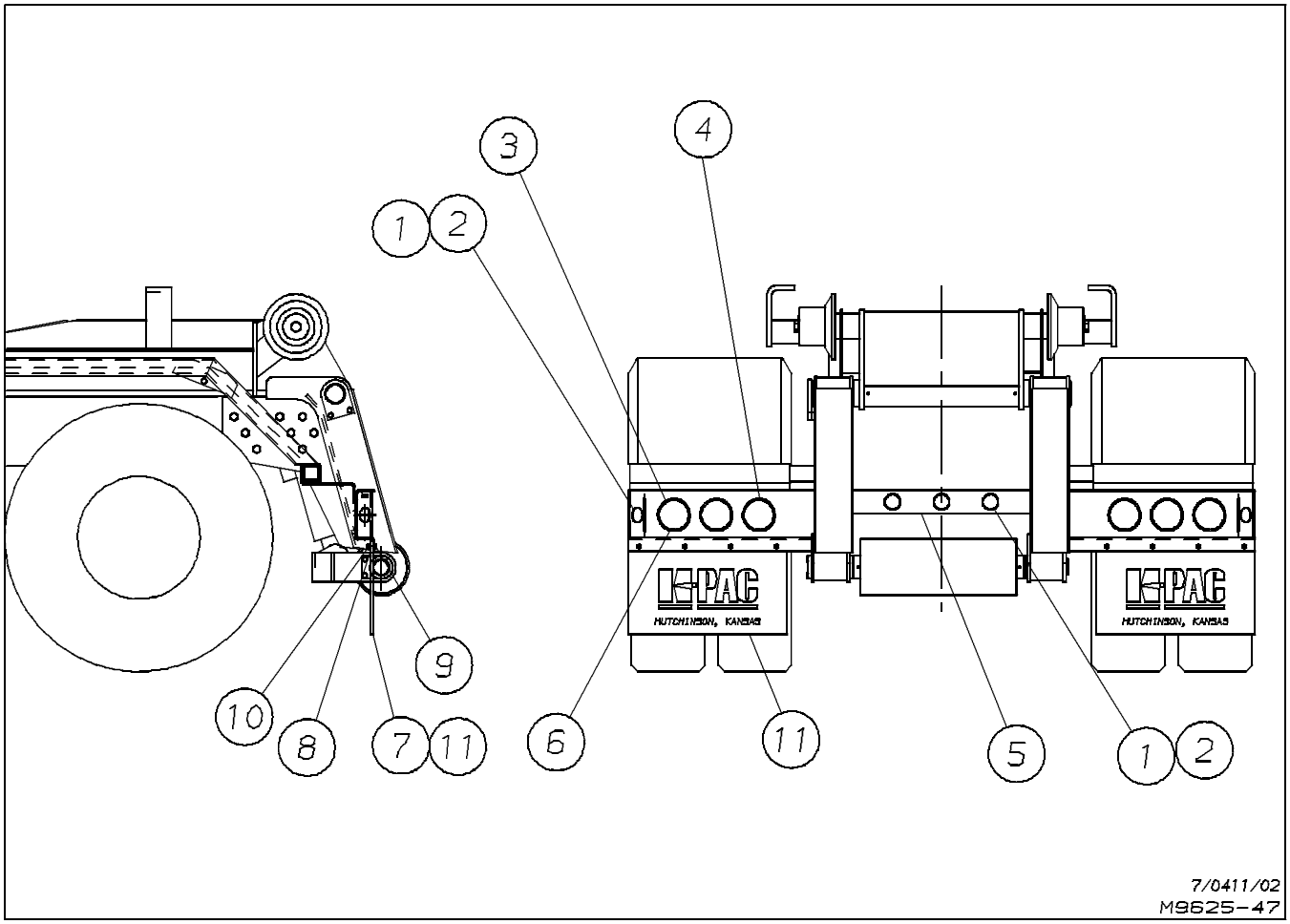
FOR MODELS - KP625 / KP630 2/99

Item	Part Number	Part Description	Qty.
1	9625-21-0	Connection Weldment	1
2	9625-20-0	I.C.C. Lighted Bumper Weldment	1
3	9625-19-1	Pin	3
4	99-201	Retaining Ring	8
5	79-493	Clear Light w/ Grommet and Plug	2
6	79-492	Red Light w/ Grommet and Plug	2
7	79-494	2” Sealed Light (Red)	5
8	79-495	2” Flush Mounting Grommet and Plug	5

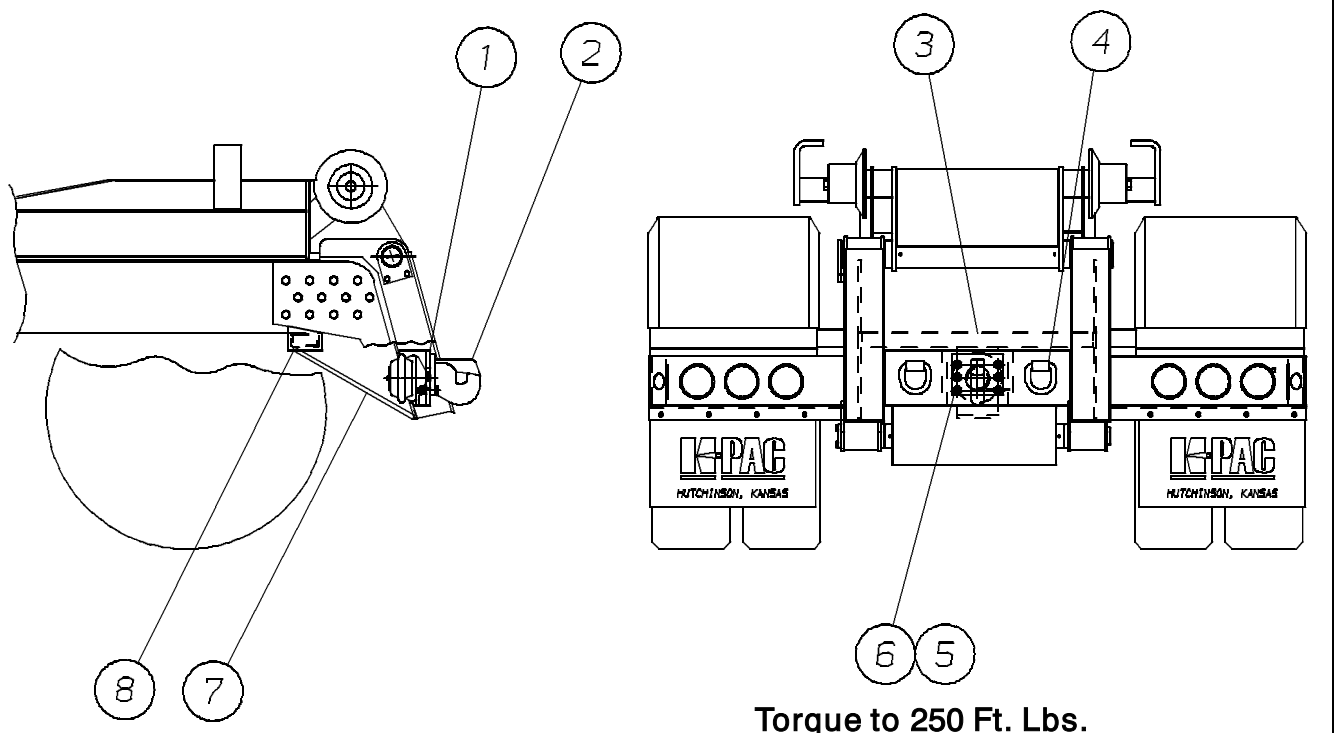
LIGHTED REAR BUMPER



FOR MODELS - KP625 / KP630 7/04

Item	Part Number	Part Description	Qty.
1	79-235	Lamp 2" Clearance (Red)	5
2	79-236	Rubber Grommet 2" DIA.	5
3	79-234	Lamp (Stop / Turn / Tail)	4
4	79-233	Lamp Back-up	2
5	9625-0-11	Center Light Plate	1
6	79-237	Rubber Grommet 4-1/4" DIA.	6
7	44-192	Mud Flap	2
8	9274-0-1	Backing Plate	2
9	62-108	3/8NC x 1" GD5 Cap Screw	8
10	63-134	3/8NC Nylon-Top Lock Nut	8
11	44-118	Mud Flap	2

PINTLE HITCH



Torque to 250 Ft. Lbs.

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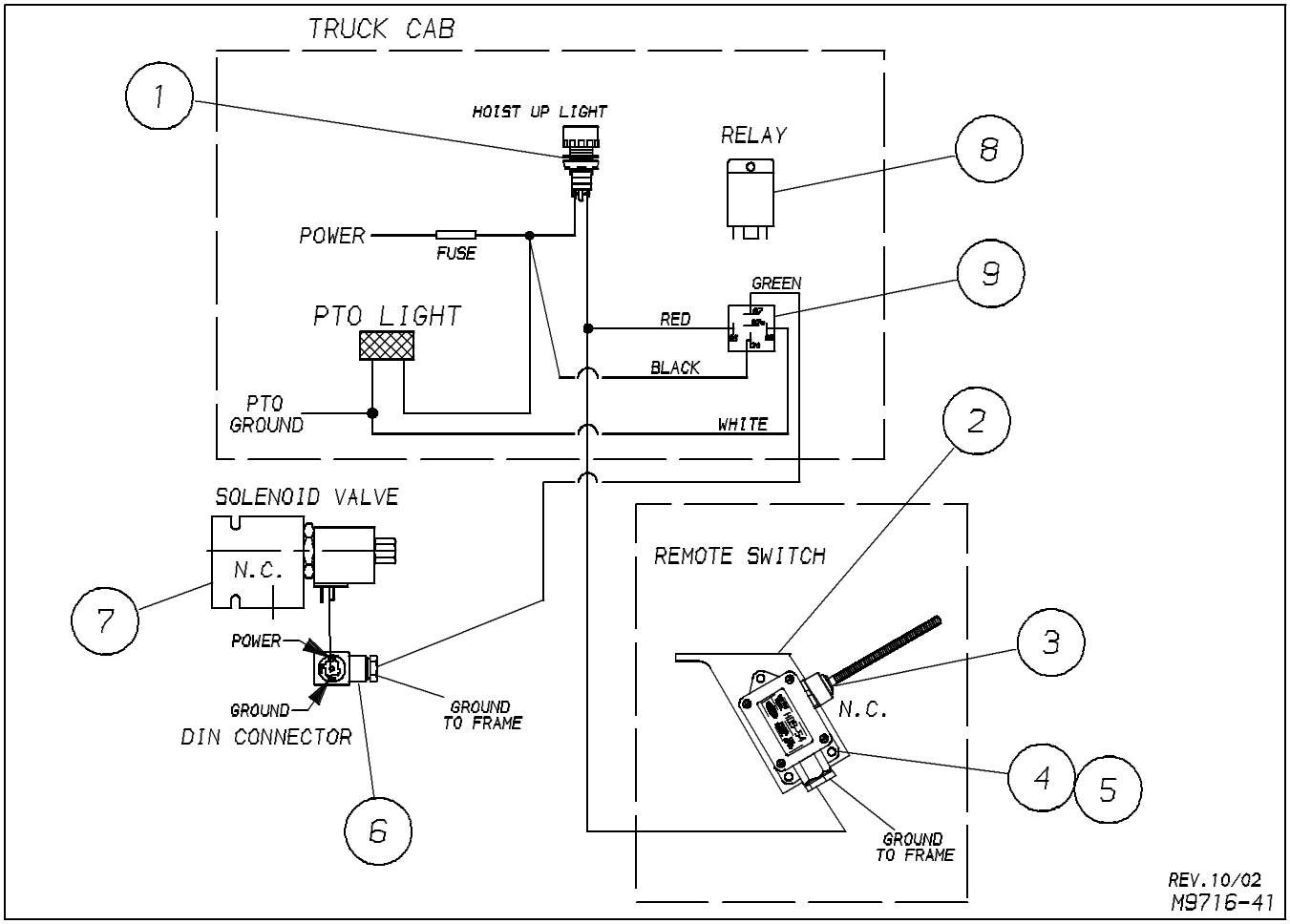
M9625-42

FOR MODELS - KP625 / KP630 10/98

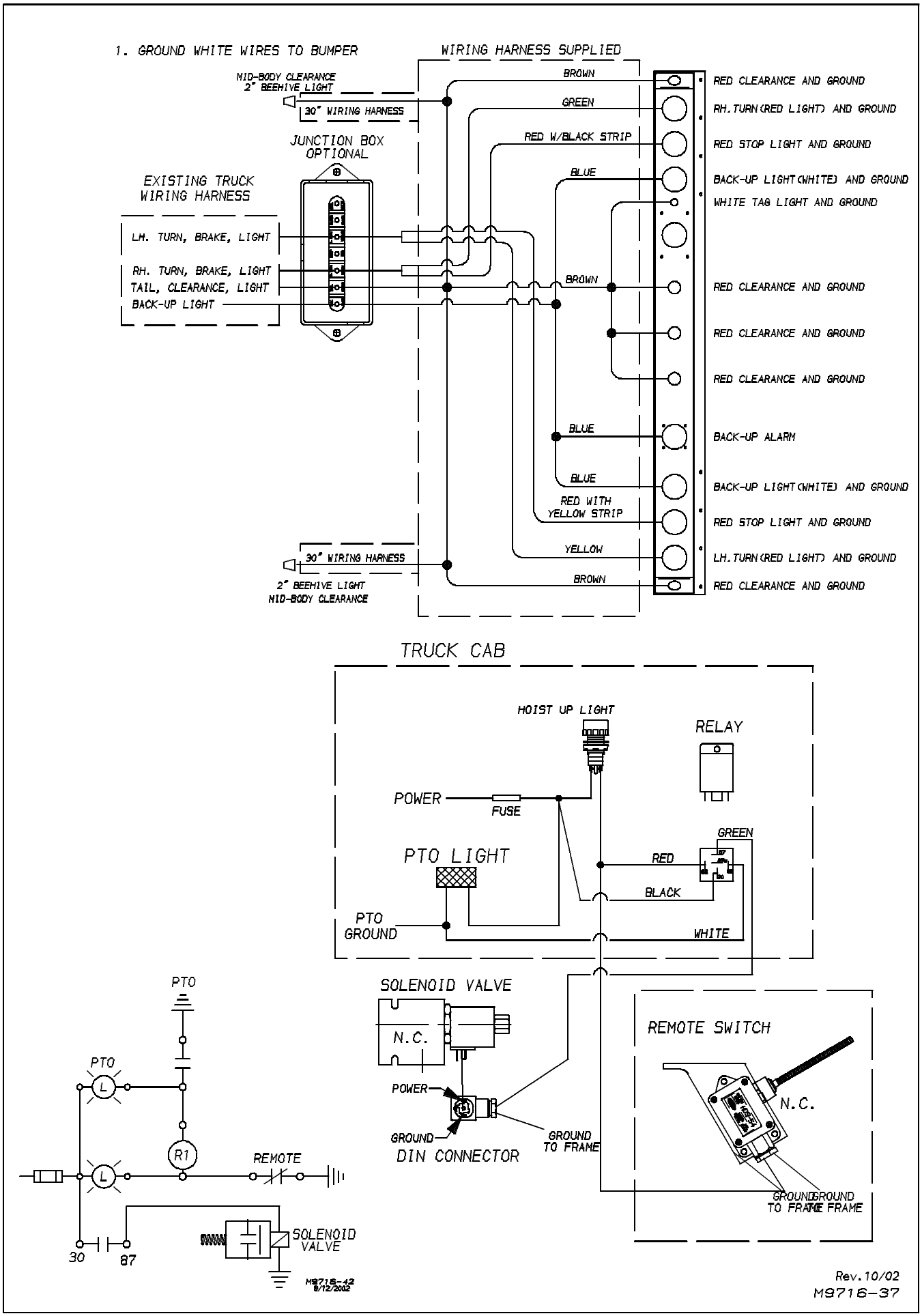
Item	Part Number	Part Description	Qty.
1	9625-22-0	Hitch Mounting Weldment	1
2	82-195	Pintle Hook (Air Cushion)	1
3	9625-23-1	Cross Tube Support	1
4	82-280	D-Ring	2
5	63-239	3/4NF Hex Flange Lock Nut	6
6	62-757	3/4NF x 2-1/2" Cap Screw	6
7	9625-23-2	Gusset Plate	1
8	9625-23-5	Extension Plate	2

MISCELLANEOUS ELECTRICAL PARTS

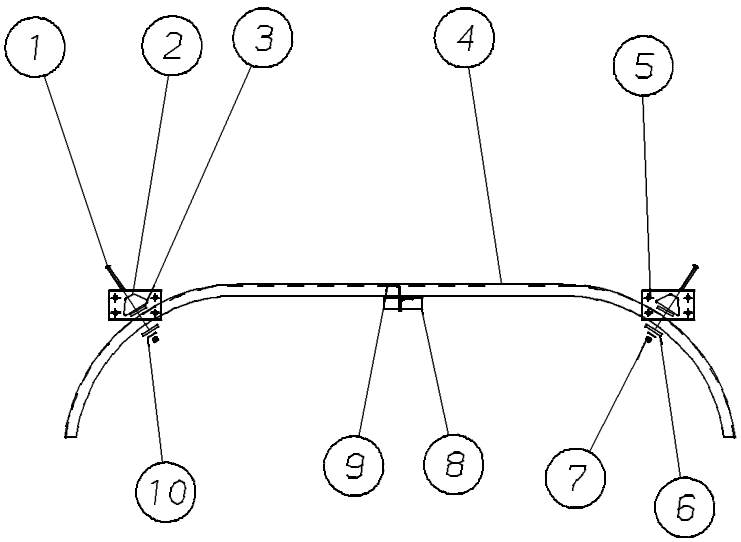


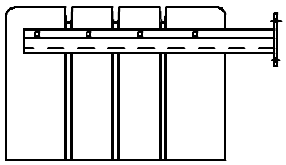
FOR MODELS - KP625 / KP630 2/03

Item	Part Number	Part Description	Qty.
1	79-269	Hoist Up Light	1
2	9716-0-30	Bracket - Safety Switch	1
3	79-248	Remote Switch	1
4	62-422	1/4NC x 1-1/2" GD5 Cap Scre	3
5	63-141	1/4NC Hex Flange Serrated Nut	3
6	79-496	Din Plug	1
7	79-563	Solenoid Valve (40 GPM)	1
8	79-564	1/2V Relay 30 Amp	1
9	79-565	12V Relay Connector w/ Wire	1


1. GROUND WHITE WIRES TO BUMPER
WIRING HARNESS SUPPLIED
MID-BODY CLEARANCE 2" BEEHIVE LIGHT
30" WIRING HARNESS
JUNCTION BOX OPTIONAL
EXISTING TRUCK WIRING HARNESS
LH. TURN, BRAKE, LIGHT
RH. TURN, BRAKE, LIGHT
TAIL, CLEARANCE, LIGHT
BACK-UP LIGHT
BROWN
GREEN
RED W/BLACK STRIP
BLUE
BROWN
BLUE
BLUE
RED WITH YELLOW STRIP
YELLOW
BROWN
30" WIRING HARNESS
2" BEEHIVE LIGHT MID-BODY CLEARANCE
RED CLEARANCE AND GROUND
RH. TURN (RED LIGHT) AND GROUND
RED STOP LIGHT AND GROUND
BACK-UP LIGHT (WHITE) AND GROUND
WHITE TAG LIGHT AND GROUND
RED CLEARANCE AND GROUND
RED CLEARANCE AND GROUND
RED CLEARANCE AND GROUND
BACK-UP ALARM
BACK-UP LIGHT (WHITE) AND GROUND
RED STOP LIGHT AND GROUND
LH. TURN (RED LIGHT) AND GROUND
RED CLEARANCE AND GROUND
TRUCK CAB
HOIST UP LIGHT
RELAY
POWER
FUSE
PTO LIGHT
GREEN
RED
BLACK
PTO GROUND
WHITE
PTO
PTO
L
R1
L
REMOTE
30
87
SOLENOID VALVE
M9716-42 8/12/2002
SOLENOID VALVE
N.C.
POWER
GROUND
DIN CONNECTOR
GROUND TO FRAME
REMOTE SWITCH
N.C.
GROUND TO FRAME
GROUND TO FRAME
Rev.10/02
M9716-37

TANDEM STEEL FENDERS



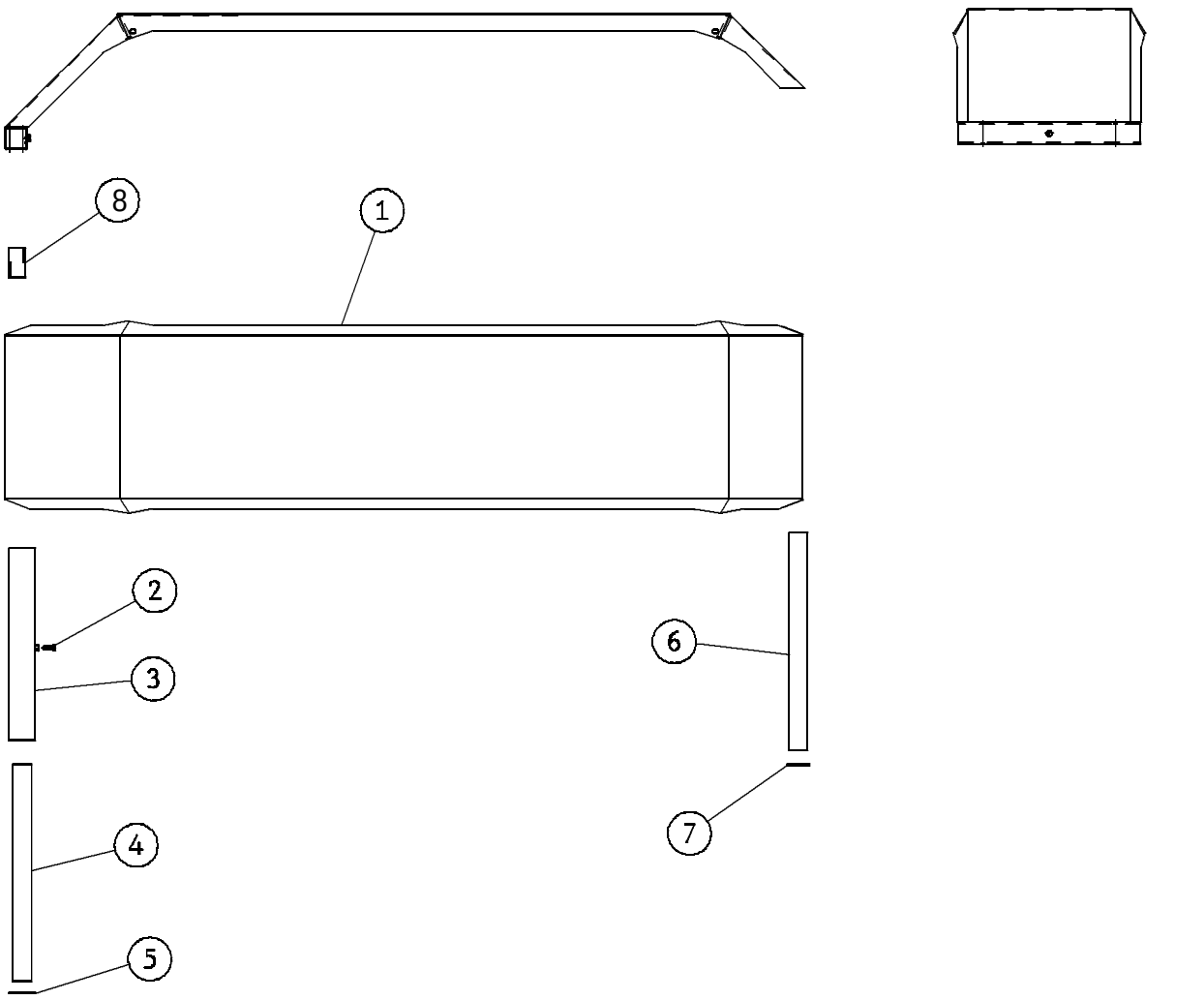


M9615-10

FOR MODELS - KP625 / KP630 (REPAIRS) 7/97

Item	Part Number	Part Description	Qty.
	82-266	Mounting Kit (Includes ★ Items)	1
1	★	5/16NC x 3" Carriage Bolt	16
2	★	Left Angle Bracket	2
3	★	Rubber Pad	16
4	82-260	Steel Tandem Fender	2
5	★	Right Bracket	2
6	★	Metal Plate	16
7	★	5/16NC Nylon-Top Lock Nut	16
8	★	Middle Support Weldment	2
9	★	Bent Plate	2
10	★	5/16" STD. Flat Washer	16

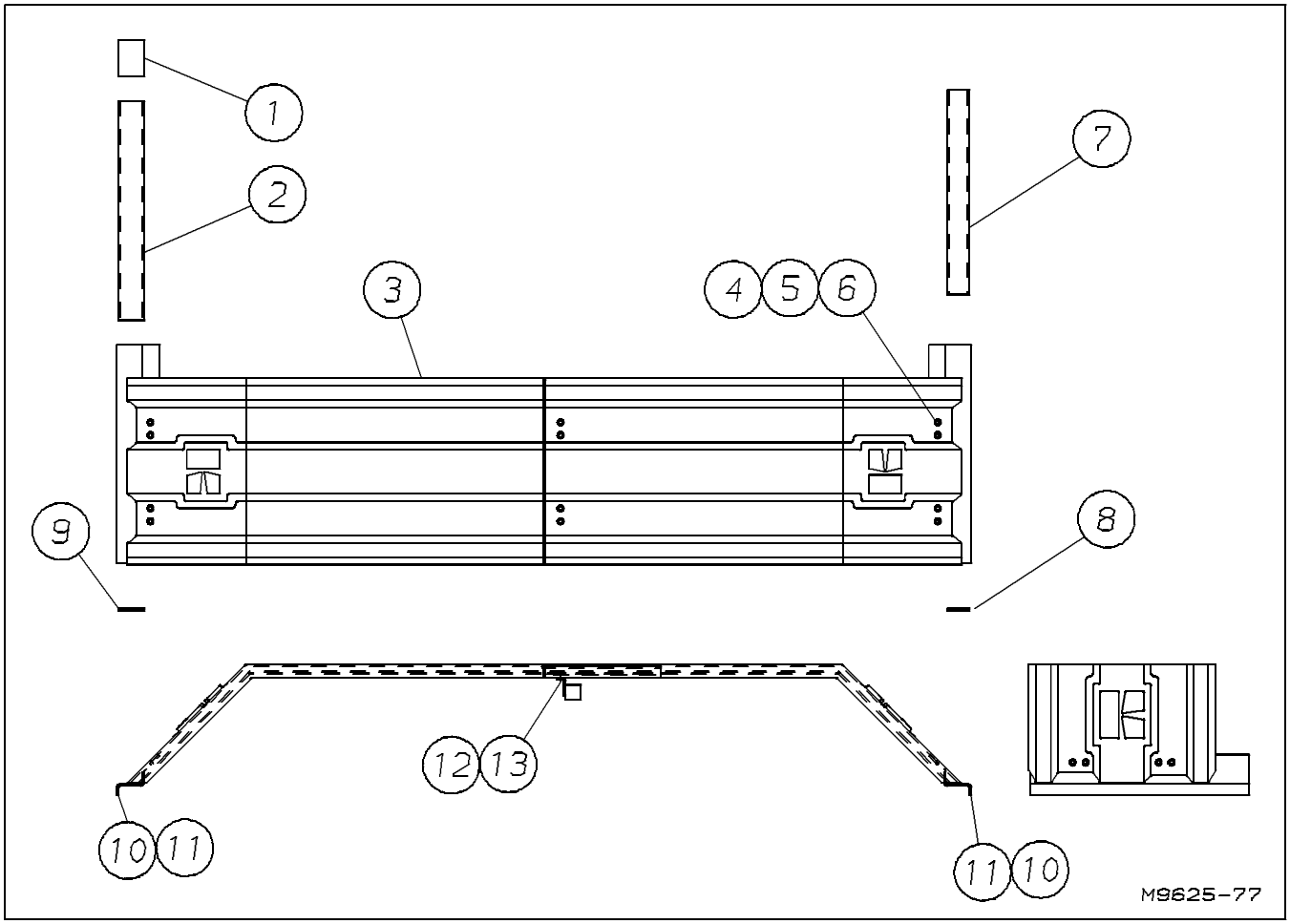
TANDEM STEEL HEAVY-DUTY K-PAC FENDERS



FOR MODELS - KP625 / KP630 4/02

Item	Part Number	Part Description	Qty.
1	9274-159-0	Fender Weldment	2
2	62-503	1/2NC x 1-1/2" Square Head Cone Point Set Screw	2
3	9274-148-0	Front Fender Tube Weldment	2
4	9625-0-8	Front Fender Mounting Tube	2
5	9274-50-5	End Cap Front	2
6	9625-0-7	Rear Fender Mounting Tube	2
7	9274-50-6	End Cap Rear	2
8	9274-0-3501	Gusset	2

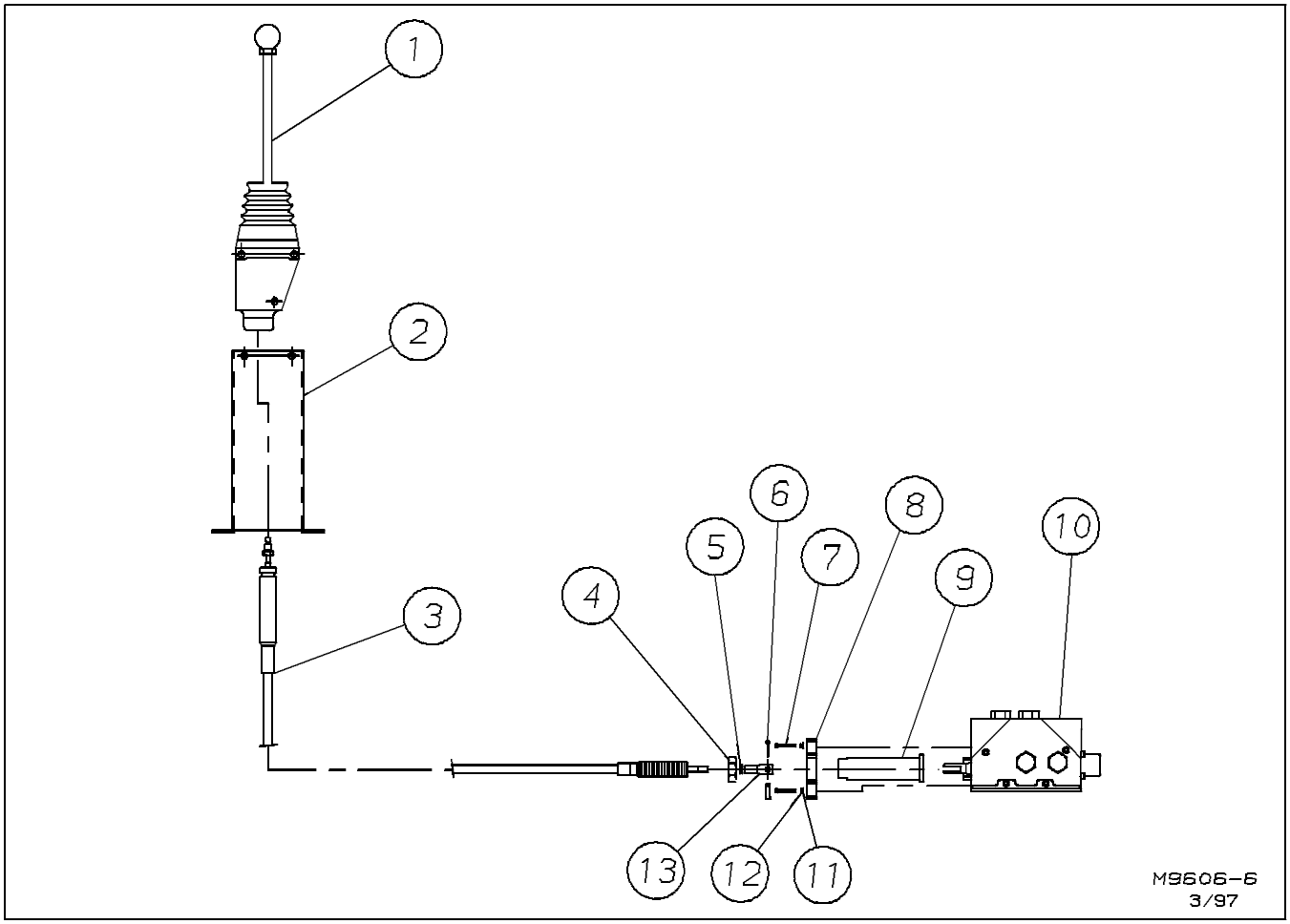
PLASTIC TANDEM FENDERS



FOR MODELS - KP625 / KP630 2/03

Item	Part Number	Part Description	Qty.
1	9274-0-3501	Gusset	2
2	9625-0-26	Front Tube Support	2
3	44-133	Plastic Fenders, Dual Axle	4
4	62-111	3/8NC x 1-1/2" GD5 Cap Screw	24
5	63-140	3/8NC Hex Flange Serrated Nut	24
6	64-104	3/8" STD. Flat Washer	24
7	9625-0-8	Fender Mounting Tube	2
8	9274-50-6	End Cap	2
9	9274-162-1	End Cap w/ Hole	2
10	9274-115-4	Fender Brace, LH	2
11	9274-115-5	Fende Brace, RH	2
12	9274-115-9	Center Tube Fender Support	2
13	9274-115-10	Center Fender Support	2

COMMERCIAL INTERTECH REMOTE VALVE & CONTROLS

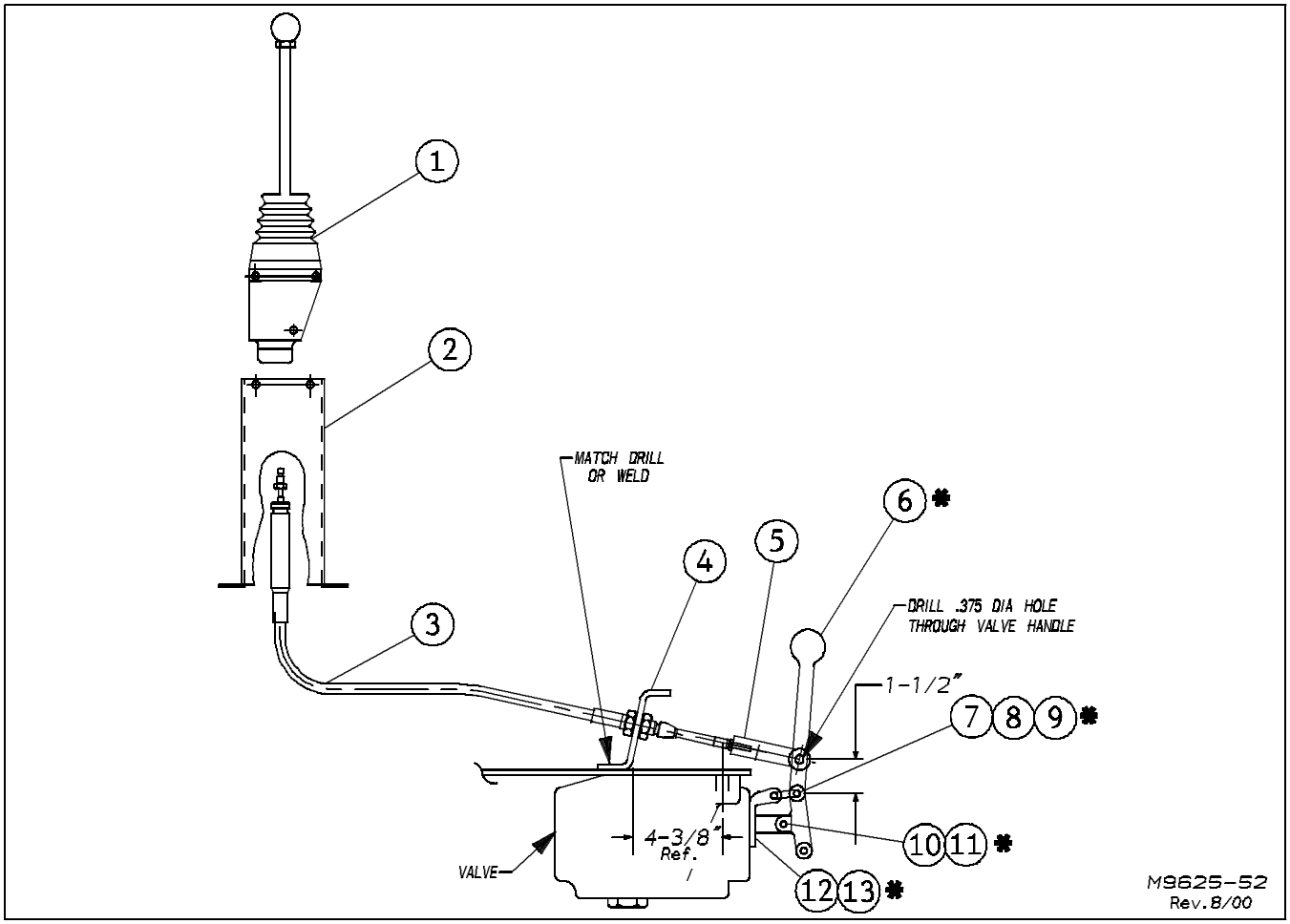


FOR MODELS - 2-SPOOL VALVE (REPAIRS) 7/98

Item	Part Number	Part Description	Qty.
1	82-238	Controller	1
2	82-240	Tower	1
3	72-122	Cable - 72”	1
	82-282	Remote Valve Control Connection Kit	1
4	★	3/4NC Hex Nut	1
5	★	1/4NC Hex Nut	1
6	★	Cotter Pin	1
7	★	1/8NF x 1” Socket Head Cap Screw	2
8	★	Collar	1
9	★	Tube	1
10	25-2405	Commercial Intertech VA20 2-Spool Valve	1
11	★	1/8” STD. Flat Washer	2
12	★	1/8” STD. Lock Washer	2
13	★	Connector	1

★ Items included in Remote Valve Control Connection Kit

GRESEN REMOTE CONTROLS

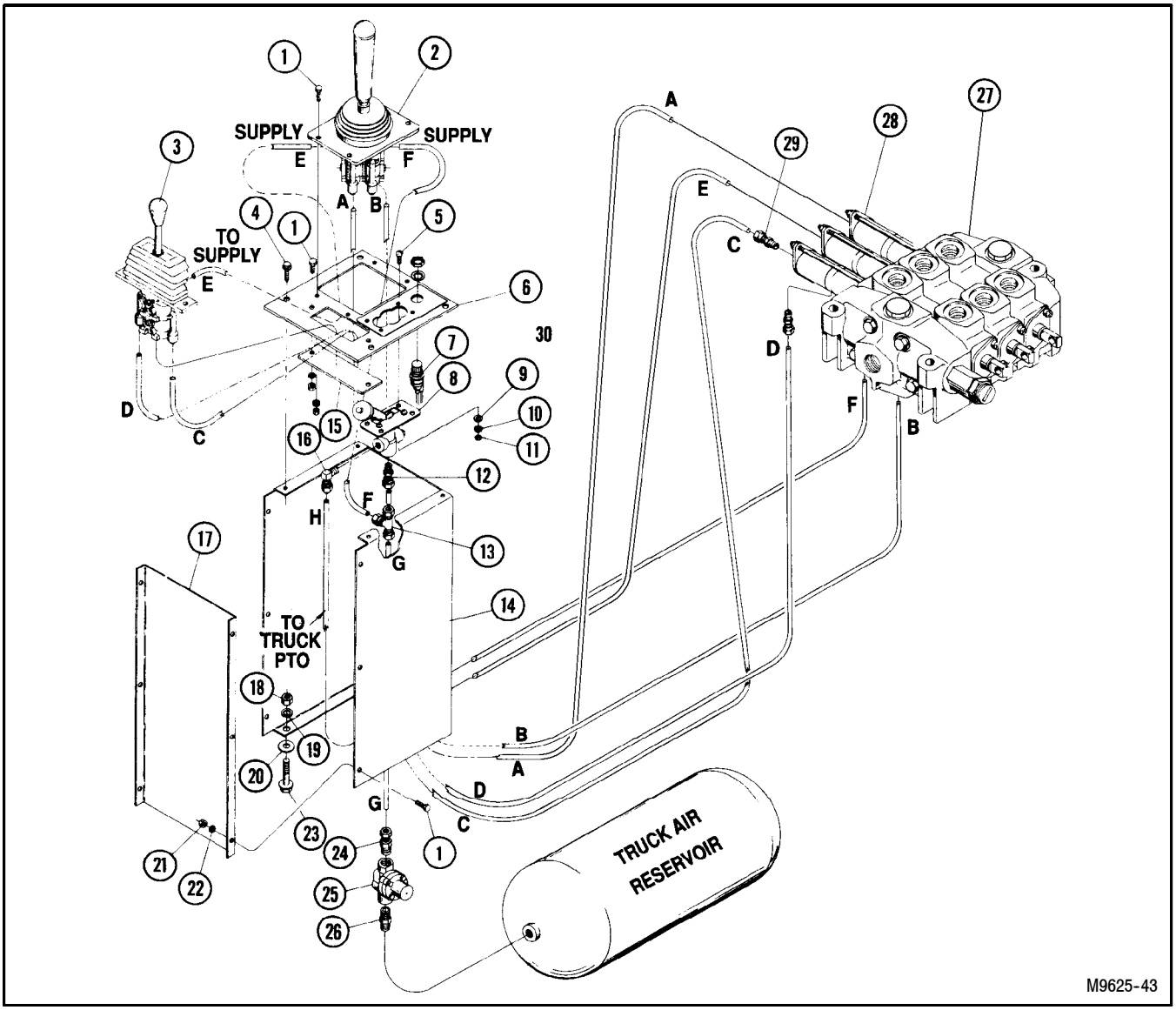


FOR MODELS - 6/99

Item	Part Number	Part Description	Qty.
1	72-107	Valve Control	
2	82-240	Tower (2)	
	82-259	Tower (3)	
3	72-112	Cable Assembly - 84" Long	
	72-109	Cable Assembly - 252" Long	
4	9625-0-16	Control Cable Bulkhead Plate	
5	72-108	Clevis Assembly (Pin Included)	
6	★ 25-2129	Vertcal Handle	
7	★ 25-2130	Pin	
8	★ 60-727	Cotter Pin	
9	★ 25-2128	Side Plate	
10	★ 60-248	Clevis Pin	
11	★ 60-727	Cotter Pin	
12	★ 25-2127	Handle Bracket	
13	★ 62-541	1/4NC x 3/4" Slotted Fillister Head Machine Screw	

★ Included in 25-250 Hydraulic Handle Kit

AIR CONTROLLER



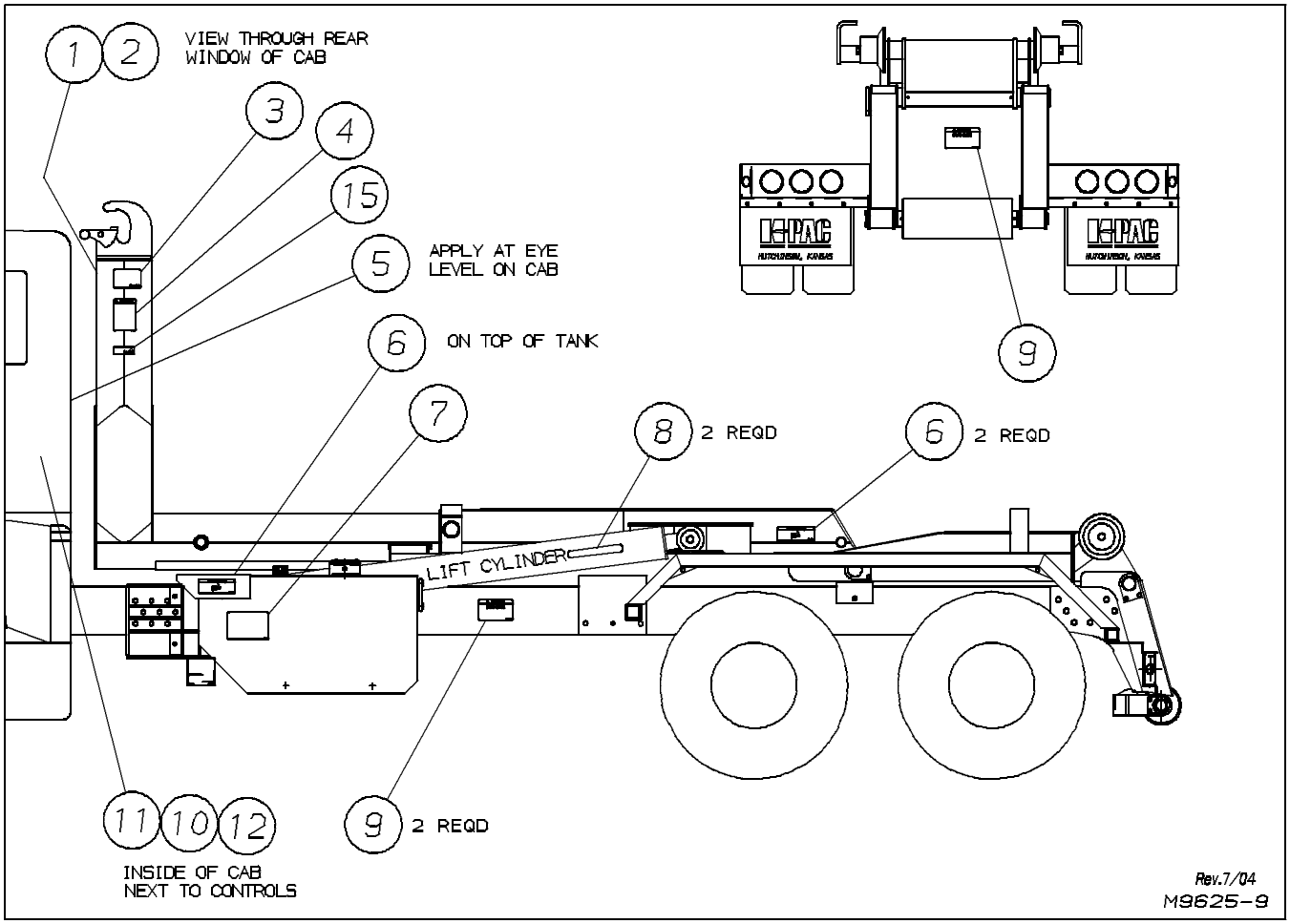
FOR MODELS -

3/05

Item	Part Number	Part Description	Qty.
1	62-530	1/4NC x 1/2" Cap Screw	1
2	82-157	Joystick Controller	1
3	★ 82-199	Joystick Controller	1
4	62-342	1/4NC x 3/4" Hex Washer Thread Cutting Screw	4
5	62-485	#10NC x 1/2" Cross Recess Pan Heac Machine Screw	4
6	9274-196-1	Air Control Mounting Plate	1
7	82-170	P.T.O. Indicator Light	1
8	82-169	Air Valve	1
9	64-158	#10 Flat Washer	4
10	64-170	#10 External Tooth Lock Washer	4
11	63-151	#10 Hex Nut	4
12	82-125	Compresion Fitting 1/8NPT (M) 1/4 Straight Tube	5-7
13	82-166	1/4 Tube Union Tee Compression Fitting	1
14	9274-196-2	Tower	1
15	9274-196-4	Cap (Used when not equipped with 3-Section)	1
16	82-126	1/8NPT (M) 1/4" Tube 90° Compression Fitting	1
17	9274-196-3	Cover	1
18	63-102	3/8NC Hex Nut	4
19	64-103	3/8" STD. Lock Washer	4
20	64-104	3/8" STD. Flat Washer	4
21	63-100	1/4NC Hex Nut	12
22	64-100	1/4" STD. Lock Washer	12
23	62-115	3/8NC x 1-1/2" Hex Washer Thread Cutting Screw	4
24	82-163	3/8NPT (M) - 1/4" Tube Straight Compression Fitting	1
25		Pressure Protection Valve	1
26	82-167	1/4NPT Hex Nipple	1
27		2-Spool Valve Assembly	1
		3-Spool Valve Assembly	1
28	82-316	Pneumatic Actuator Assembly	2-3
29	82-125	Compression Fitting 1/8NPT (M) to 1/4" Tube Straight	6

★ For 3rd Section Only

DECALS

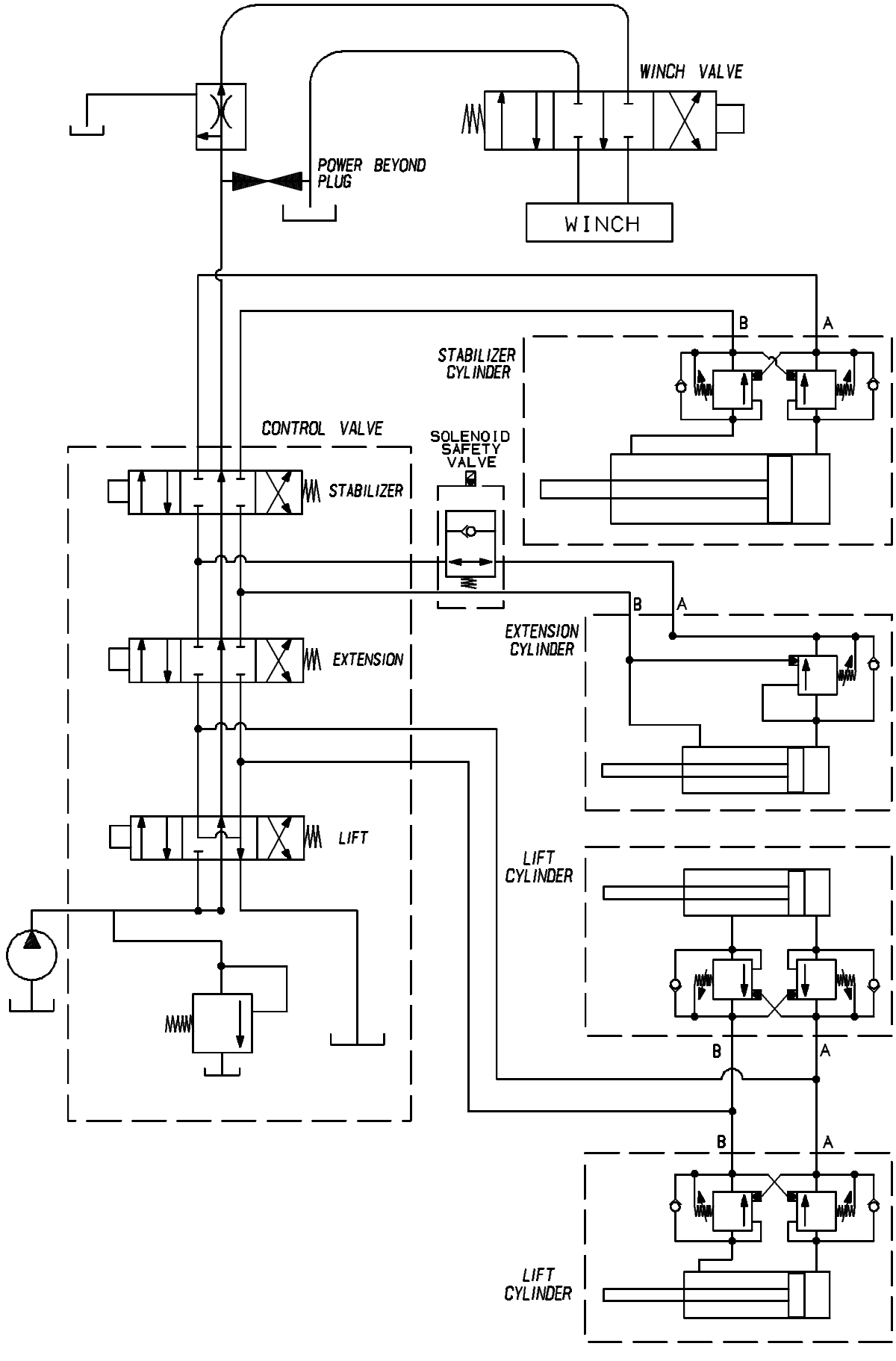


FOR MODELS - KP625 / KP630 7/04

Item	Part Number	Part Description	Qty.
1	74-482	Decal - CAUTION Inner Boom	1
2	74-485	Decal - DANGER Powerlines (Hook)	1
3	74-606	Decal - Trademark	2
4	74-490	Decal - DANGER Hook Height Must Match	1
5	74-477	Decal - CAUTION Proper Training	1
6	74-276	Decal - WARNING High Pressure	2
7	74-266	Decal - K-PAC	1
8	74-494	Decal - 50,000 Lbs.	2
	74-495	Decal - 60,000 Lbs.	2
9	74-302	Decal - Stand Clear	3
10	74-478	Decal - IMPORTANT Operation Instructions	1
11	74-297	Decal - WARNING Uneven Ground	1
12	74-510	Decal - DANGER Engage Lock Bar	1
13	★ 74-600	Reflective Tape - Red/White (NOT SHOWN)	20 Ft.
14	★ 74-601	Reflective Tape - White (NOT SHOWN)	4 Ft.
15	74-512	Decal - Patent	1

★ Specify exact quantity needed. See page A for suggested locations on truck frame

HYDRAULIC SCHEMATIC



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KP625/KP630 HOIST MOUNTING INSTRUCTIONS

Study the names and locations of the parts and familiarize yourself with the hook hoist before starting the installation. Reading the step-by-step instructions that follow will be helpful.

SAFETY

Read all of the Safety Notations in the following instructions for your own protection. Accidents can be prevented by recognizing the cause of an accident before it can happen.

ASSEMBLY

Select an area for installation that will be large enough to accommodate the completed unit. The surface of the work area should be as level as possible. Use the proper hand tools to insure proper bolt tightness. Refer to the chart below for the recommended torque values for different sizes of bolts.

Proper Bolt Use

DO not use these values if a different torque value or tightening procedure is given for a specific application. Torque values listed are for general use only. Check tightness of fasteners periodically.

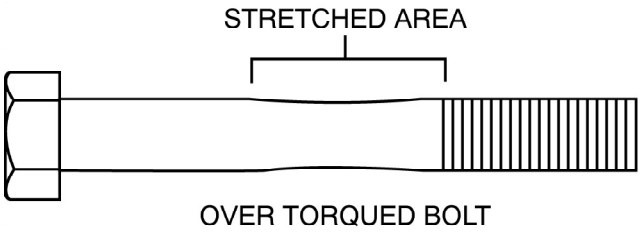
Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical grade.

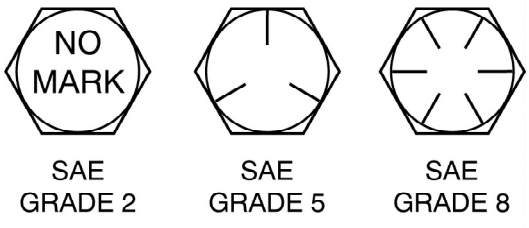
Fasteners should be replaced with the same or higher grade. If higher grade fasteners are used, these should only be tightened to the strength of the original.

Tighten plastic insert or crimped steel-type lock nuts to approximately 110 percent of the dry torque values shown in the chart below,applied to the nut, not to the bolt head. Tighten toothed or serrated-type lock nuts to the full torque value.

NOTE: "Lubricated" means coated with a lubricant such as engine oil, or fasteners with phosphate and oil coatings. "Dry" means plain or zinc plated without any lubrication. **Tighten lubricated bolts to approximately 80% of dry bolts.**

BOLT SIZE	WRENCH SIZE	DRY BLACK OR PLATED BOLTS		
		GRADE 2	GRADE 5	GRADE 8
3/8"	9/16"	20	33	45
7/16"	5/8"	32	52	70
1/2"	3/4"	50	80	105
5/8"	15/16"	100	150	210
3/4"	1-1/8"	160	260	375
7/8"	1-5/16"	175	415	600
1"	1-1/2"	250	625	880
1-1/8"	1-11/16"	375	850	1400
1-1/4"	1-7/8"	530	1100	1765
1-1/2"	2-1/4"	930	1400	2540

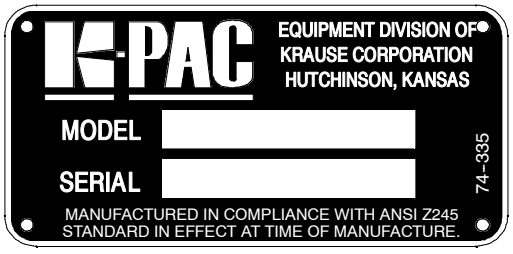




INSTALLATION

If a forklift is to be used to lift the unit from the transport vehicle to the installation area, care should be taken not to engage chains or hooks to areas of the Hook Hoist which may cause damage to hydraulic hoses or any parts of the structure.

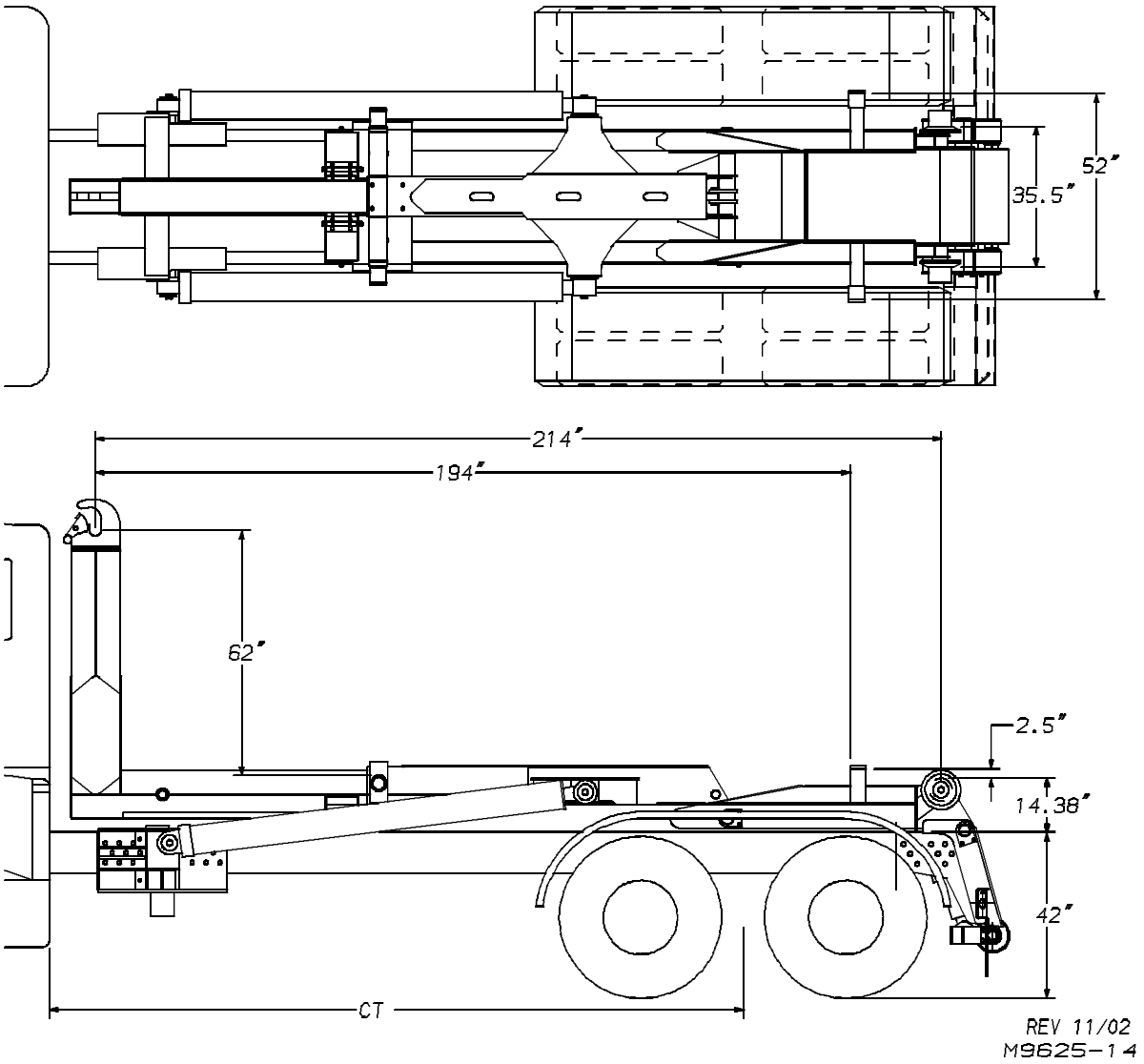
Before starting installation procedures, check the shipping list to ensure that all parts and accessories have been supplied. Any missing items should be reported to K-PAC equipment immediately.



MODEL NUMBER

Know the model number of unit being mounted. Use this model number whenever referring to assembly or parts listing pages. The number is stamped on a Name Plate which is located on the frame member.

TANDEM AXLE TRUCK CHASSIS



The **KP625-630 Hook Hoist** is designed for a 52,000 lb. G.V.W.R. chassis with 174" unobstructed behind cab-to-axle chassis clearance. Some truck suspensions will allow less frame cut-off than others. It is desirable to have the axle back as far as possible, so a longer cab-to-axle chassis can be used. Note: This information is supplied for guidelines only and does not assure the installer of other mounting considerations.

227" is the minimum cab to frame cut-off dimension and should be increased if a tarper or toolbox, etc. is to be added. Also, be aware of exhausts, etc. behind the cab.

POWER TAKE-OFF INSTALLATION

Caution: The power take-off selection should be done with care. For diesel engines, the P.T.O. should be 85% to 100% of engine R.P.M. For gas engines, the P.T.O. should be 65% to 80% of engine R.P.M. The direct mounted pump requires a SAE mounting flange and must accept a 7/8" 13 tooth splined shaft.

Warning: Do not attempt to install or service any power take-off with your truck engine running. Put the ignition keys in your pocket before getting under the truck.

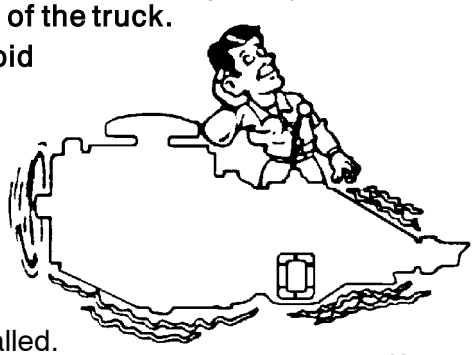
Do not allow truck engine to be started while workmen are under the truck.

Block truck wheels with suitable chocks before working under the truck.

Warning: Be sure to block any raised body or mechanism before working on or under the equipment.

Installed power take-offs must never be shifted in or out of gear by any means except by the controls in the cab of the truck.

Stay clear of spinning driveshafts to avoid becoming entangled and injured.



M9305-39

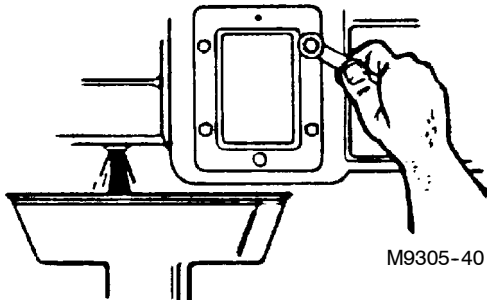
For P.T.O. installation, follow the P.T.O. manufacturer's installation instructions.

When installation is completed, refill the transmission with fluid and run engine for 5 to 10 minutes to check for leaks.

1. Run transmission in neutral.

   Determine sound of transmission before PTO is installed.

   A noise in the transmission gear may be more noticeable after PTO is installed.



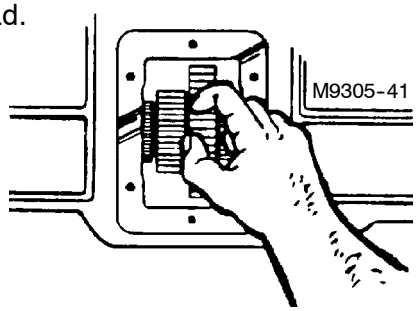
M9305-40

2. For manual shift transmissions, drain transmission fluid. For automatic transmissions, do not drain the transmission fluid.

   Remove cover plate.

   Place a shop towel in the opening to prevent dirt from getting into the transmission.

   Clean mounting pad.



M9305-41

3. Check transmission for proper PTO driver gear and location.

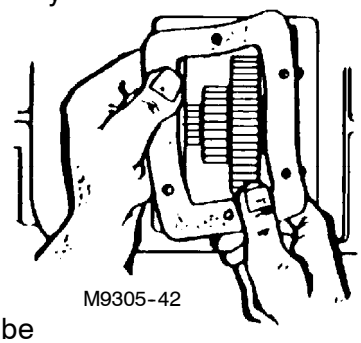
   Start engine and depress clutch pedal fully while a helper observes the PTO driver gear to see if it stops rotating. If the gear does not come to a complete stop within a few seconds, the clutch linkage on the truck must be adjusted before installing the PTO.

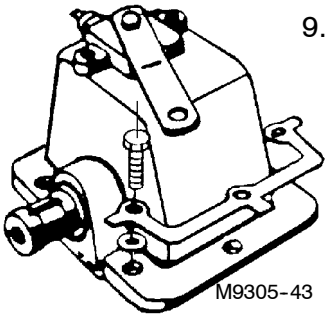
   Check PTO driver gear for condition. (A nick or blemish may cause excessive noise when PTO is mounted.)

4. Rock transmission gears by hand to get the "feel" for gear backlash manufactured into transmission gear set.
5. Open the PTO carton and find the mounting kit (studs and cap screws) enclosed with your PTO. Visual inspection of the PTO will indicate which mounting holes in the PTO will NOT accept cap screws.
6. Torque the studs to 30-35 Lbs./Ft.. (6 bolt pad), or 45-50 Lbs./Ft. (8 bolt pad).

7. Remove the shifter cover or the inspection cover plate from the PTO by removing the hex head cap screws on the cover plate. With PTO's which do NOT have an inspection cover plate, hold the out-put shaft and rock input gear to get the "feel" of backlash built into the PTO. This "feel" will be helpful when fitting PTO to transmission. (See step 10)
8. Place mounting gasket from your kit over the studs already installed on the transmission. A thin coating of grease is recommended on gaskets to help seal and to hold them in place during installation.

   Do not use a permanent sealant on gaskets because you may need to change them later. Use Grease ONLY!


M9305-42


M9305-43

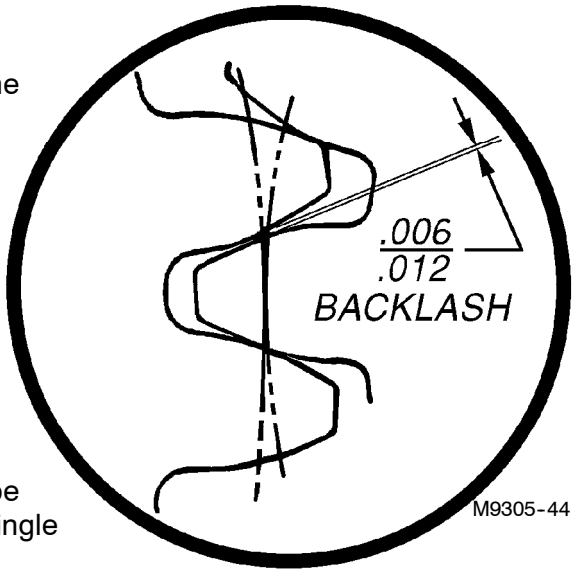
9. Mount the PTO to the studs with the copper washers, lock tabs, and nuts provided.

   NOTE: The copper washers must be installed between the PTO housing and the lock tabs.

   Tighten the top and bottom nuts to 30-30 Lbs./Ft. of torque.

10. Check the backlash on the input gear (gear the meshes with transmission gear) by feeling through the inspection hole previously uncovered in step 7 above. The amount of rotational movement of the PTO gear should be only .006 to .012. As a reference, a thin gasket in your installation kit is .010 thick. The thin gasket (.010 thick) will change the backlash approximately .006.

    The amount of movement of the input gear would be only about the same distance as this gasket thickness. At least one gasket must be used. On Allison transmissions, only the single .035 gasket will be required.



M9305-44

    NOTICE: For some Warner W80 applications a maximum of one thin gasket (.010) is required. If backlash is too excessive, remove the gasket and use loctite gasket eliminator sealant #13M51717. A .20 ounce tube has been provided with the PTO for these applications.

    Do NOT stack more than (4) gaskets together.

11. Finish the mounting by installing all the cap screws or stud nuts provided in the mounting kit.

    Torque all mounting bolts to the required torque as specified in step 6 above.

12. Replace shifter cover or inspection cover plate on the PTO.
13. Run the truck engine (with transmission and PTO in neutral) for a few seconds and listen for unnatural noises. A whine noise indicates the PTO is mounted too tight. Add gasket(s). A clatter noise indicates a loose mount. Remove gasket(s).

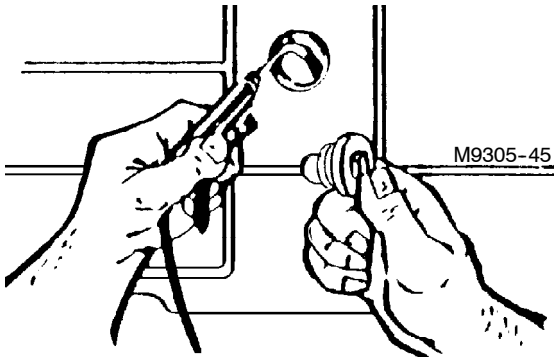
    A tight mounted PTO will cause undercutting of gears and result in premature gear failure.

    If okay, repeat test with PTO engaged.

⚠ Caution: Keep PTO / Transmission running time as short as possible until transmission is refilled with lube.

14. Refill transmission with fluid and run engine for 5 to 10 minutes to check for leaks.
15. Install the appropriate shifter kit components.

    On air system only, you will not receive any air through the pressure protection valve to the PTO system until your main valve tank pressure exceeds 65 PSI.
16. If your system contains a driveline between the PTO and another product and if you have noise in your system that was not there before, the angularity of your driveline may be the cause.



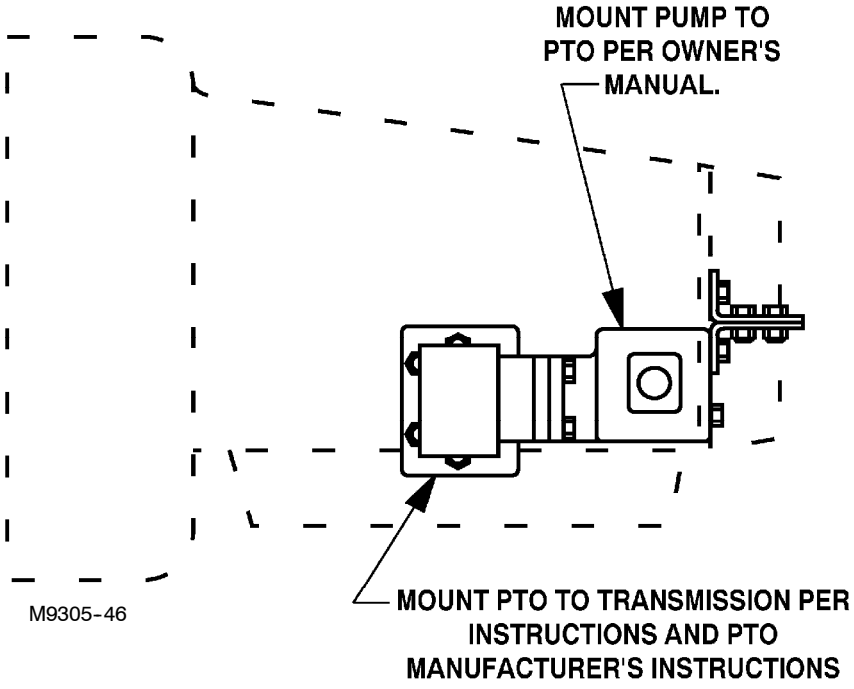
Check driveline angularity and reduce the total angularity to less than 15° and be sure that the shafts are parallel within 3°.

Warning: Direct mounted hydraulic pumps weighing more than 50 Lbs. should be supported at the rear by a strap attached to the transmission.

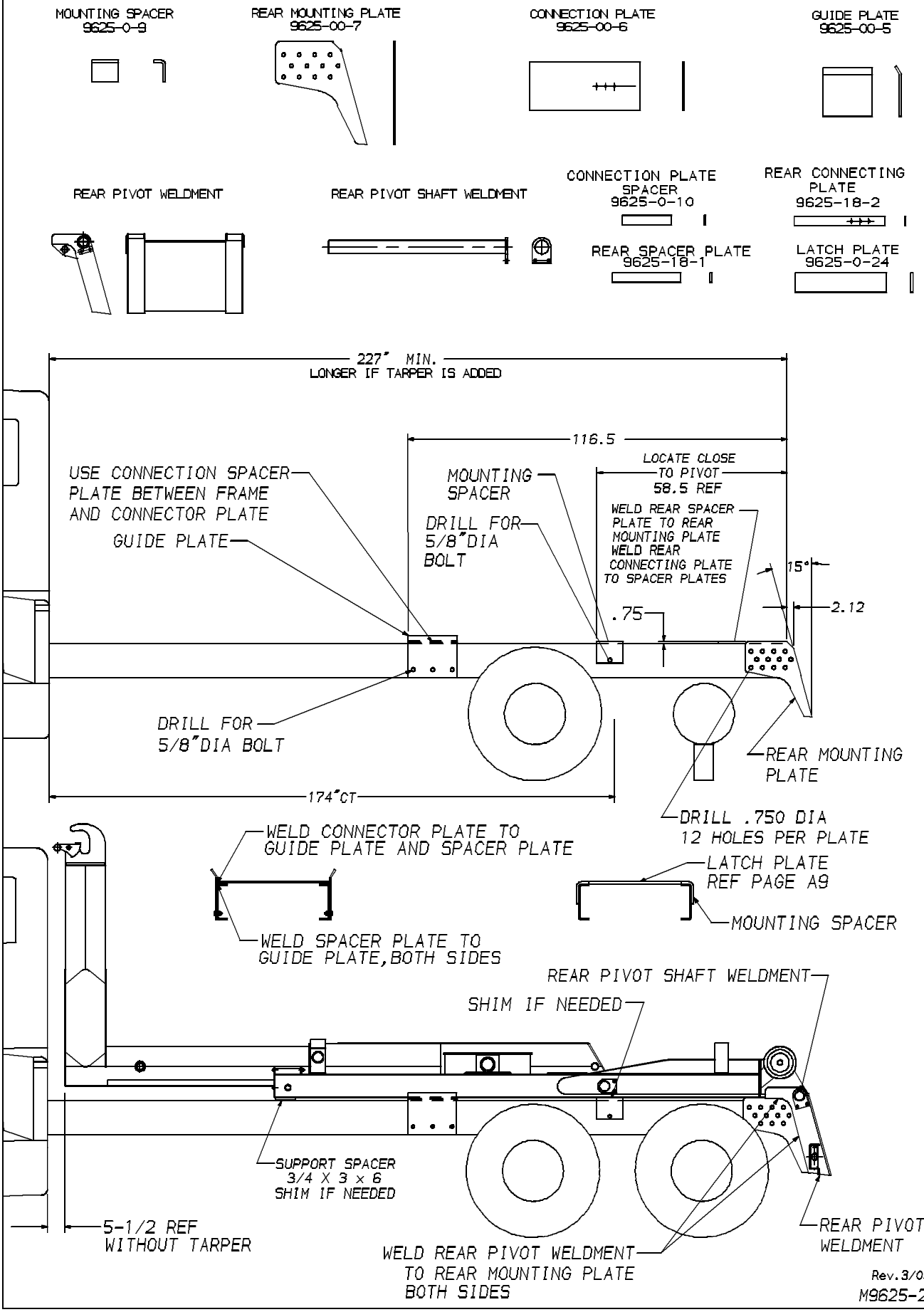
DIRECT MOUNTED PUMP INSTALLATION

1. To install a direct mounted pump, first of all determine the direction of rotation of the PTO from the illustration below.
2. Align the splined shaft on the pump with the splines in the PTO.
3. Install the four 1/2NC x 2" GD.5 Cap Screws and Lock Washers. Be sure the pump flange is fully seated onto the PTO housing.
4. Tighten all hardware.

Warning: Direct mounted hydraulic pumps weighing more than 50 Lbs. should be supported at the rear by a strap attached to the transmission.


MOUNT PUMP TO PTO PER OWNER'S MANUAL.
MOUNT PTO TO TRANSMISSION PER INSTRUCTIONS AND PTO MANUFACTURER'S INSTRUCTIONS
M9305-46

HOOK HOIST INSTALLATION



HOOK HOIST MOUNTING INSTRUCTIONS

NOTE: RIGHT and LEFT sides can be established by standing behind the truck frame and looking towards the front or the direction of travel.

The KP625/KP630 Hook Hoist is designed to be mounted on a standard truck frame. If there are unmovable obstructions on top of the truck frame, you must add spacers to raise the hoist frame to clear, or move the obstructions.

NOTE: Check Safety Latch Bar installation (pg. A9) to determine if Safety Latch interferes with frame cross member. See illustration for height clearance from hoist frame to bottom of Safety Latch. Minor front-to-rear positioning may make Latch installation easier.

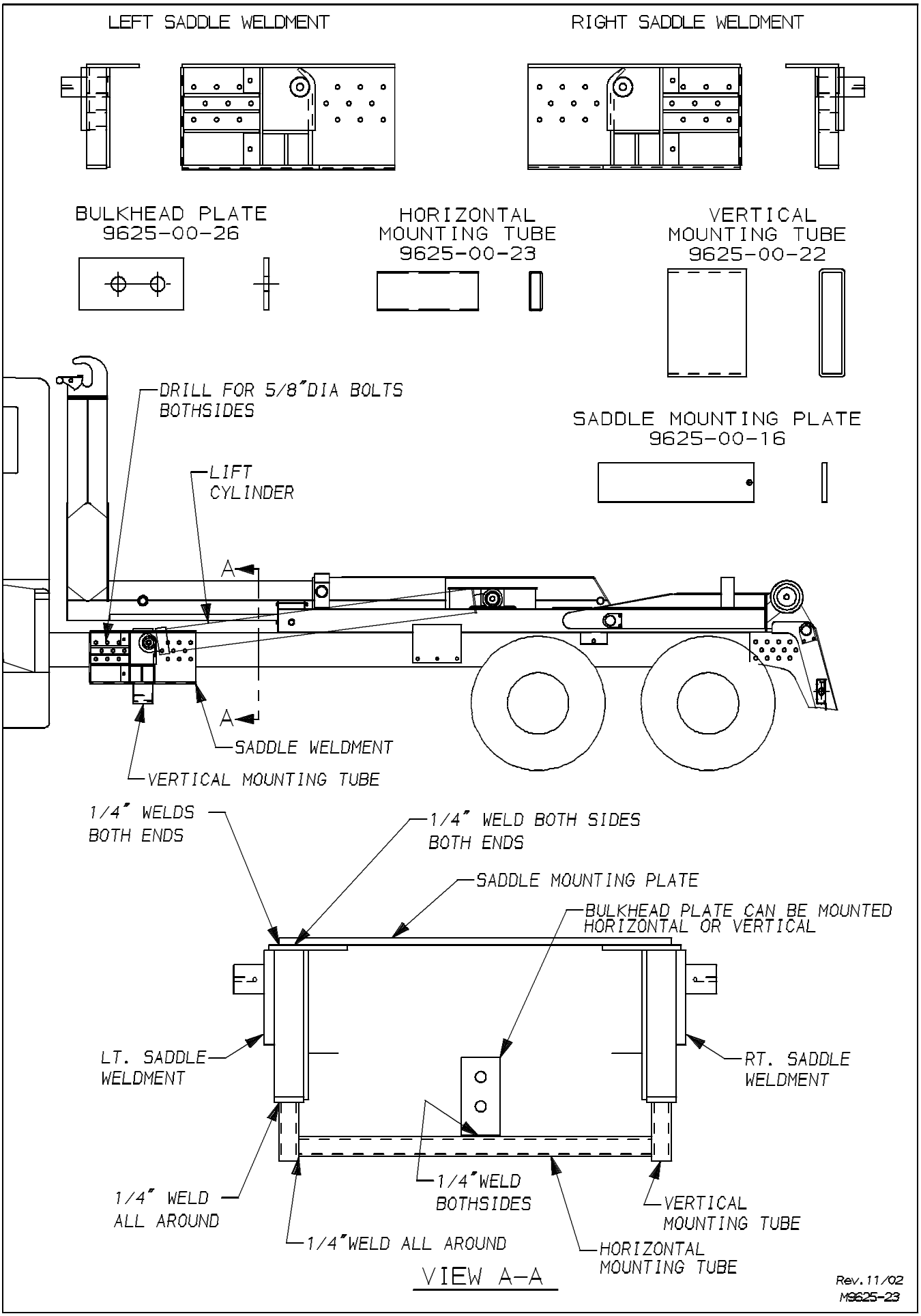
1. Compare the Truck Chassis with the Hook Hoist ordered. Compare the specification dimensions to determine how far forward on the chassis the Hoist can be mounted. It is best to mount as far forward as possible for optimum weight distribution. Suspension and fender to rear holdown are the main considerations.
2. If chassis is longer than recommended, the chassis can be cut off shorter per difference. **The minimum would be determined by suspension components, air pods, etc.**

   NOTE: If bolts, pipe, pipe fittings, hydraulic fittings, hoses, etc., are substituted for the hardware supplied with the hoist, the installer must use parts of equal quality and service strength.

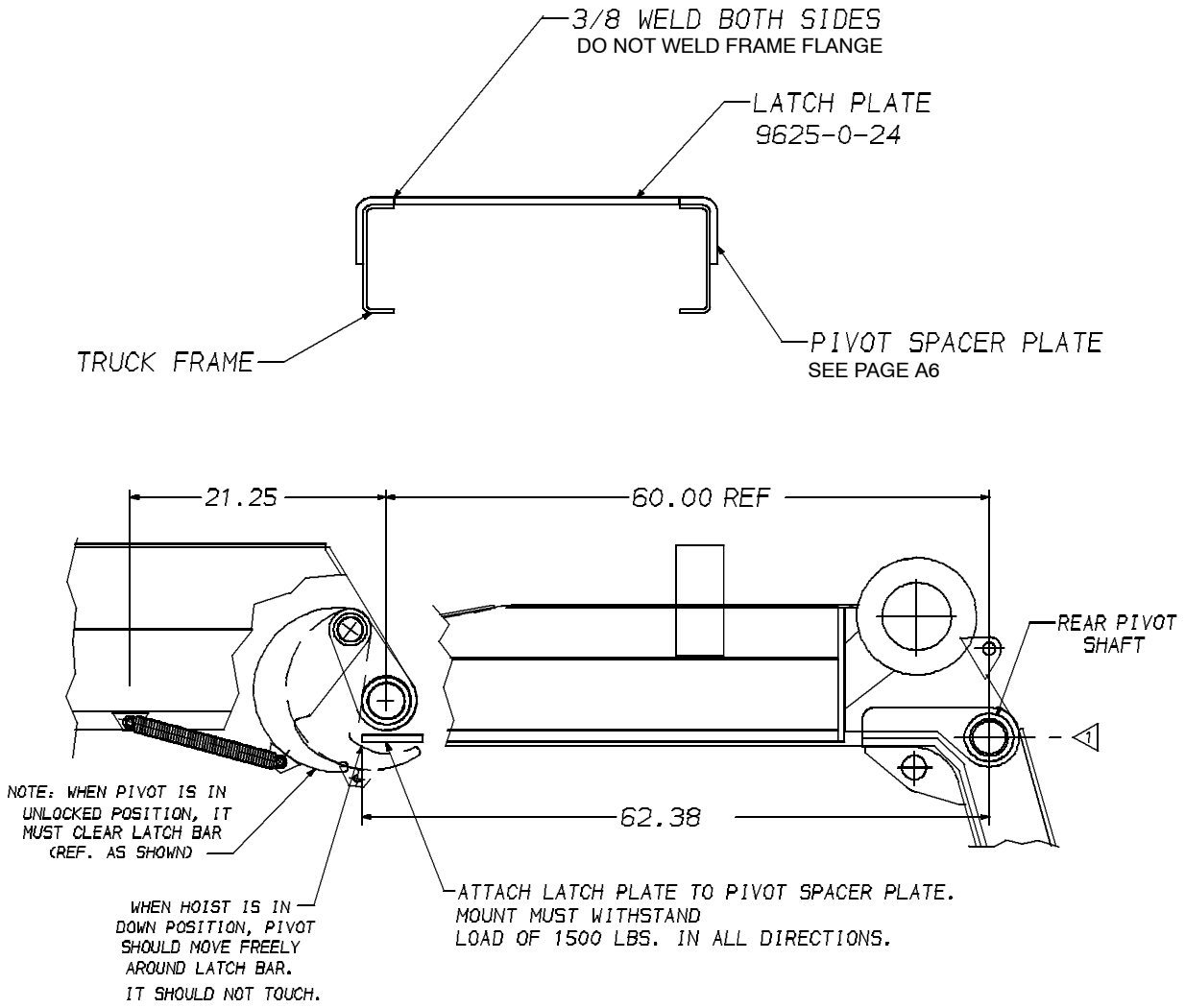
   NOTE: It may be necessary to relocate air tanks, fuel tank, battery cases or any other accessories mounted in this area.

   ⚠ **Caution: Before drilling through the truck chassis, be sure that all hoses, wiring and lines are moved out of the path of the drill.**
3. Set REAR MOUNTING PLATES 3/4" above frame using spacer provided, and level across to each other. Use rear mounting plates as a pattern for cutting of frame at proper distance indicated or needed. Match drill 3/4"DIA. (12 holes per plate) attach with 3/4NF x 2" Hex Flange Bolts and 3/4NF Hex Flange Lock Nuts. Attach rear cross plate.
4. Locate and install GUIDE PLATES on each side of truck frame. NOTE: Guide plates can be moved to avoid obstructions (See installation on following page) attach guide plate to frame drill for 5/8NC x 2" Cap Screws and 5/8NC Hex Flange Lock Nuts. Guide plate can be located before or after hoist is set on truck frame. Install spacer next to guide plate both sides before installing connection plate.
5. After guide plates have been located and installed, weld CONNECTION PLATE to each guide plate with 1/4" weld.
6. Locate and install MOUNTING SPACER on each side of truck frame as close to rear boom pivot as possible. Drill for 5/8NC x 2" GD8 Cap Screw and 5/8NC Hex Flange Lock Nut. MOUNTING SPACER can be located before or after hoist is set on truck frame.
7. Unpackage KP625/630 Hook Hoist and prepare to lift onto truck frame.
8. Set hoist on truck frame. Assemble REAR PIVOT WELDMENT onto hoist frame with REAR PIVOT SHAFT WELDMENT and 1/2NC x 1-1/2" Cap Screws and Lock Washers.
9. Center hoist on truck frame with REAR PIVOT WELDMENT set against REAR MOUNTING PLATES. Weld REAR PIVOT WELDMENT to REAR MOUNTING PLATES using 3/8" weld continuous.
10. To locate SADDLE WELDMENTS, use lift cylinders. Install lift cylinder to outer boom and to saddles using SPECIAL BOLT, RETAINER and Lock Washers (see page P14-P15).

    IMPORTANT: CYLINDER MUST BE FULLY RETRACTED BEFORE DRILLING HOLES.
11. Clamp saddle weldments to outside and top of truck frame. Match drill holes for 5/8NC x 2" Cap Screws and 5/8NC Hex Flange Lock Nuts.
12. Locating of VERTICAL MOUNTING TUBES and HORIZONTAL MOUNTING TUBE weld vertical mounting tube approximately centered on bottom plates of saddles. Before welding make sure there are no obstructions between the LEFT and RIGHT SADDLES (see page A8). Install HORIZONTAL MOUNTING TUBE between VERTICAL MOUNTING TUBES. ALL WELDS TO BE 1/4". Install SADDLE MOUNTING PLATE on top of SADDLE WELDMENTS and weld with 1/4" welds.
13. Locate BULKHEAD PLATE on HORIZONTAL MOUNTING TUBE as close to center of the tube as possible. (See illustration on page A8)


LEFT SADDLE WELDMENT
RIGHT SADDLE WELDMENT
BULKHEAD PLATE
9625-00-26
HORIZONTAL
MOUNTING TUBE
9625-00-23
VERTICAL
MOUNTING TUBE
9625-00-22
DRILL FOR 5/8"DIA BOLTS
BOTHSIDES
SADDLE MOUNTING PLATE
9625-00-16
LIFT
CYLINDER
A
A
SADDLE WELDMENT
VERTICAL MOUNTING TUBE
1/4" WELDS
BOTH ENDS
1/4" WELD BOTH SIDES
BOTH ENDS
SADDLE MOUNTING PLATE
BULKHEAD PLATE CAN BE MOUNTED
HORIZONTAL OR VERTICAL
LT. SADDLE
WELDMENT
RT. SADDLE
WELDMENT
1/4" WELD
ALL AROUND
1/4"WELD
BOTHSIDES
VERTICAL
MOUNTING TUBE
1/4"WELD ALL AROUND
HORIZONTAL
MOUNTING TUBE
VIEW A-A
Rev.11/02
M9625-23

SAFETY LATCH INSTALLATION


3/8 WELD BOTH SIDES
DO NOT WELD FRAME FLANGE
LATCH PLATE
9625-0-24
TRUCK FRAME
PIVOT SPACER PLATE
SEE PAGE A6
21.25
60.00 REF
REAR PIVOT SHAFT
NOTE: WHEN PIVOT IS IN UNLOCKED POSITION, IT MUST CLEAR LATCH BAR (REF. AS SHOWN)
62.38
WHEN HOIST IS IN DOWN POSITION, PIVOT SHOULD MOVE FREELY AROUND LATCH BAR. IT SHOULD NOT TOUCH.
ATTACH LATCH PLATE TO PIVOT SPACER PLATE. MOUNT MUST WITHSTAND LOAD OF 1500 LBS. IN ALL DIRECTIONS.

IMPORTANT: Safety Latch Plate must be installed correctly per the following instructions.

1. Retract inner boom completely to position latch in load-unload mode to determine latch clearance with any nearby cross-members. Extend inner boom to position latch in unlatched mode for forward clearance.

2. If mounting spacer plate is located under pivot of outer boom, adjust latch plate to dimension before welding to pivot spacer plate.

(DO NOT WELD TO TRUCK FRAME FLANGE)

3. The latch plate must be welded secure enough to withstand at least 1500 lbs. of force in any direction. Material and parts supplied may require modification for proper fit-up on various truck chassis.

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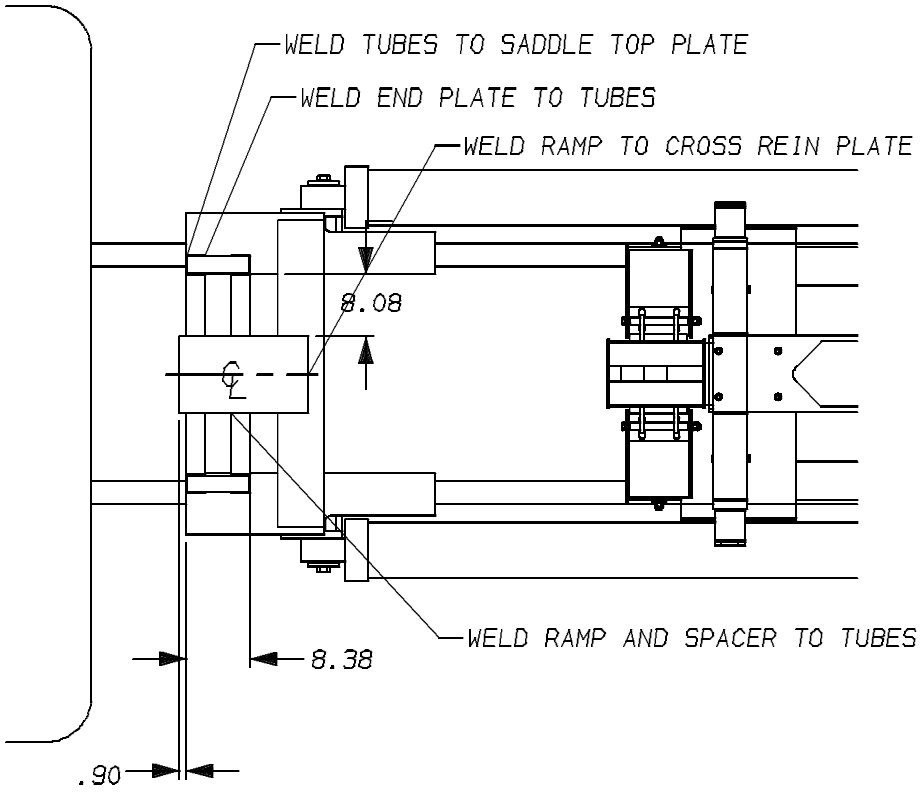
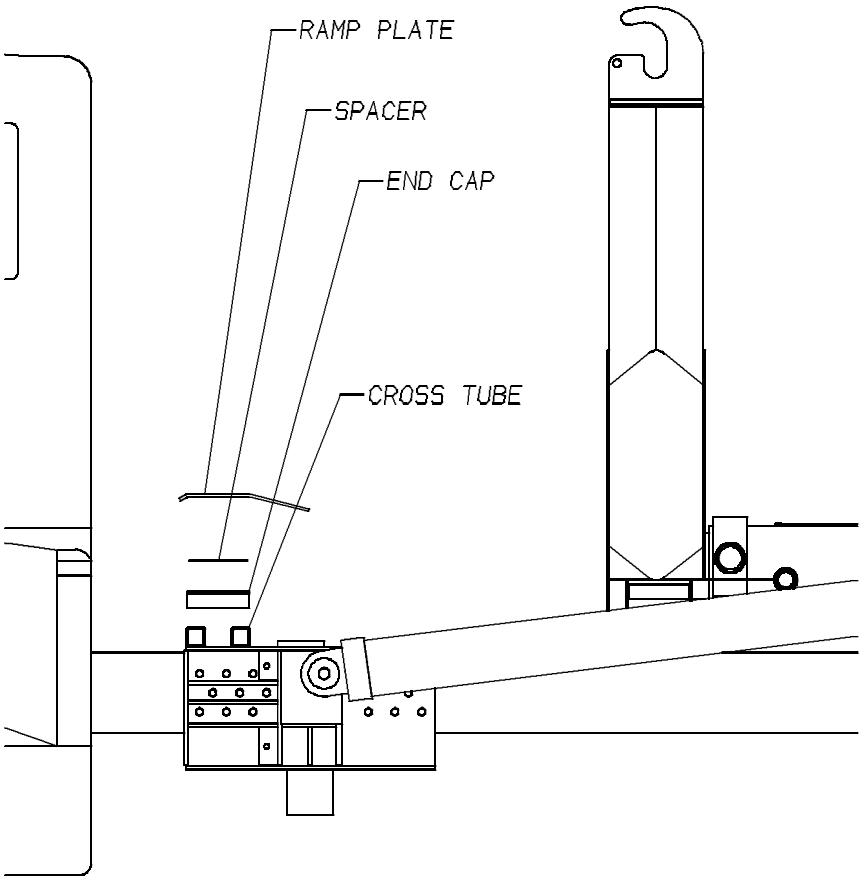
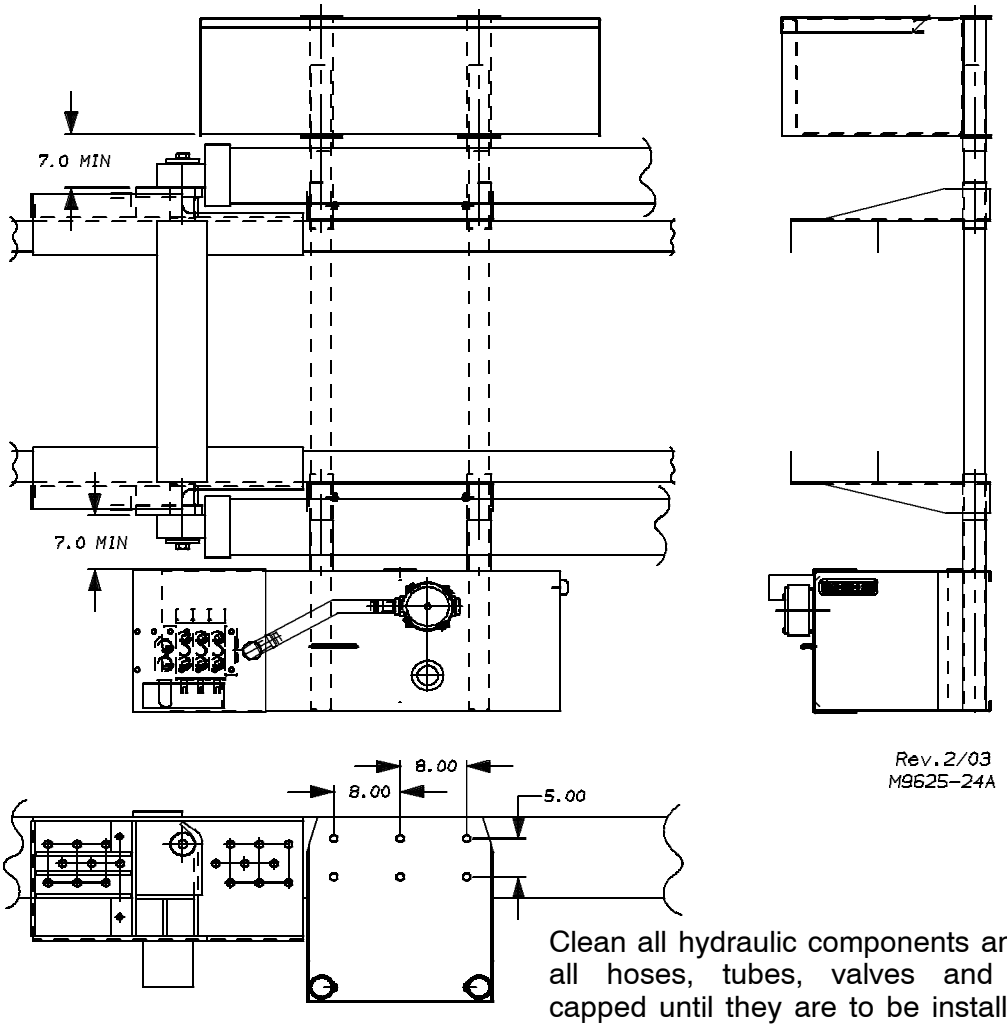
RAMP MOUNTING INSTRUCTIONS





M9625-67

60 GAL HYDRAULIC TANK INSTALLATION



Clean all hydraulic components and keep all hoses, tubes, valves and fittings capped until they are to be installed.

BE SURE TO READ THE SAFETY INFORMATION THAT FOLLOWS:

Warning: Escaping fluid under pressure can penetrate the skin causing serious injury. Avoid the hazard by relieving pressure before disconnecting hydraulic lines. Tighten all connections before applying pressure.

Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids.

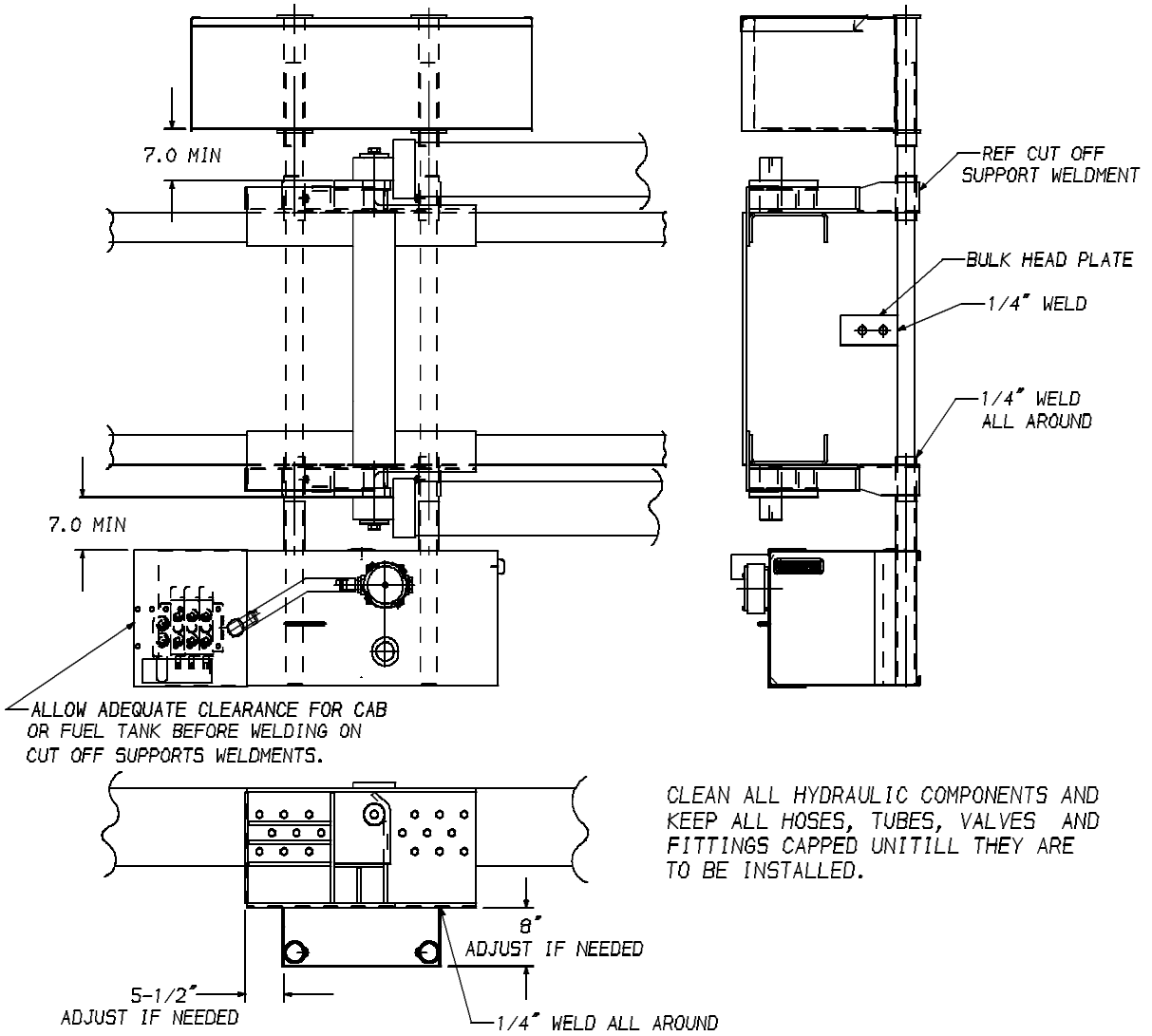
If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result.

IMPORTANT: When mounting hydraulic tank, watch clearance on top of filter. If more room is desired, lower the tank accordingly. Check for adequate clearance between bottom of tank assembly and the ground.

1. Locate SUPPORT WELDMENT (9274-59-0A) next to saddle weldment as close as possible with top of support weldment flush with top of frame. Drill (6) holes for 5/8NF x 2-1/2" Cap Screws and Lock Nuts. Locate SUPPORT WELDMENT on opposite side so that bushings line up. Install pipes (9274-45-1). Locate hydraulic tank assembly per dimension shown. Secure hydraulic tank and tool box (if ordered) to pipes with 1/2NC x 1" Socket Head Cap Screws in bushings.
2. Install fittings and hoses (see page P4 HYDRAULICS for schematic of parts.) Route hoses to clear sharp obstructions and to protect from wear.
3. Be sure to install hoses on the proper valve bank. Because each valve section performs a specific operation, the routing of the hose from the lift cylinders to the bulkhead tees must be done carefully.

   Make sure that hoses are not twisted, and have adequate flexibility during operation.

OPTIONAL HYDRAULIC TANK MOUNTING INSTRUCTIONS


7.0 MIN
7.0 MIN
REF CUT OFF SUPPORT WELDMENT
BULK HEAD PLATE
1/4" WELD
1/4" WELD ALL AROUND
ALLOW ADEQUATE CLEARANCE FOR CAB OR FUEL TANK BEFORE WELDING ON CUT OFF SUPPORTS WELDMENTS.
8" ADJUST IF NEEDED
5-1/2" ADJUST IF NEEDED
1/4" WELD ALL AROUND

CLEAN ALL HYDRAULIC COMPONENTS AND KEEP ALL HOSES, TUBES, VALVES AND FITTINGS CAPPED UNITILL THEY ARE TO BE INSTALLED.

1. **IMPORTANT:** Before cutting off support weldment, be sure to establish that there is clearance for top of filter and for cab or fuel tank.
2. Cut off support weldment and weld to bottom of saddles before mounting to truck frame.
3. See page A7 for saddle installation instructions.
4. After mounting saddles to truck, install pipes (9274-45-1). Some adjustment on support weldment may be required to get pipes to slide through both weldments.
5. Locate hydraulic tank assembly per dimension shown in illustration above. Secure hydraulic tank and tool box (if ordered) to pipe with 1/2NC x 1" Socket Head Cap Screw in bushing (if not mounting tool box, cut off pipe as required)
6. Weld pipes into place with 1/4" welds.
7. Do Not Use horizontal mounting tube (9625-00-25) and vertical mounting tube (9625-00-22) on this type of installation.
8. Weld bulkhead plate (9625-00-26) onto pipe as close to center of the pipe as possible.
9. Install fittings and hoses (See Hydraulic Schematic on page P4) Route hoses to clear sharp obstructions and to protect hoses from wear.
10. Be sure to install hoses on the proper valve bank. Each valve section performs a specific operation. **The routing of the hoses from the Lift Cylinder to the bulkhead tees must be done carefully.** Make sure hoses are not twisted, and have adequate flexibility during operation.

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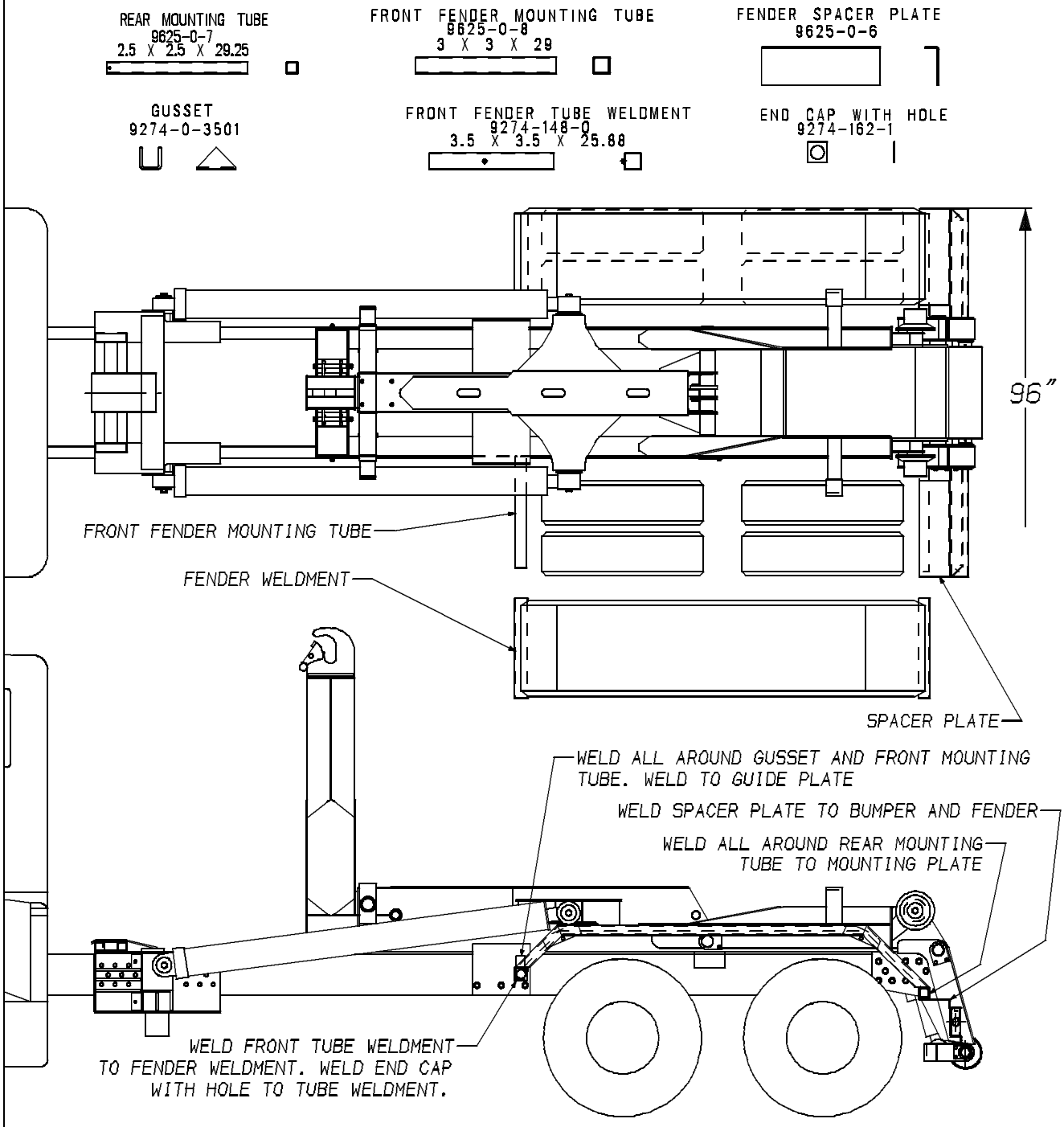
STEEL KRAUSE FENDER INSTALLATION


REAR MOUNTING TUBE
9625-0-7
2.5 X 2.5 X 29.25
FRONT FENDER MOUNTING TUBE
9625-0-8
3 X 3 X 29
FENDER SPACER PLATE
9625-0-6
GUSSET
9274-0-3501
FRONT FENDER TUBE WELDMENT
9274-148-0
3.5 X 3.5 X 25.88
END CAP WITH HOLE
9274-162-1
96"
FRONT FENDER MOUNTING TUBE
FENDER WELDMENT
SPACER PLATE
WELD ALL AROUND GUSSET AND FRONT MOUNTING TUBE. WELD TO GUIDE PLATE
WELD SPACER PLATE TO BUMPER AND FENDER
WELD ALL AROUND REAR MOUNTING TUBE TO MOUNTING PLATE
WELD FRONT TUBE WELDMENT TO FENDER WELDMENT. WELD END CAP WITH HOLE TO TUBE WELDMENT.

1. Set FENDER above tire with top of fender level with top of tilt frame tubes, center fenders front and back over tires. Locate and weld rear mounting tube (9625-0-7) to rear mounting plate. Locate and weld front mounting tube (9625-0-8) to guide plate. Locate and weld TUBE WELDMENT(9274-148-0) to rear of fender weldment. Locate fender weldment(9274-159-0) on mounting tubes. Locate SPACER PLATE(9625-0-6) and weld to bumper and mounting tube on fender.
2. Locate and weld END CAP (9274-50-5) on 2.5' sq tube. Locate and weld END CAP with hole (9274-162-1) to front tube weldment.
3. Secure fenders on mounting tubes with FOUR (4) 62-503, 1/2NC x 1-1/2" Square Head Cone Point Set Screw.

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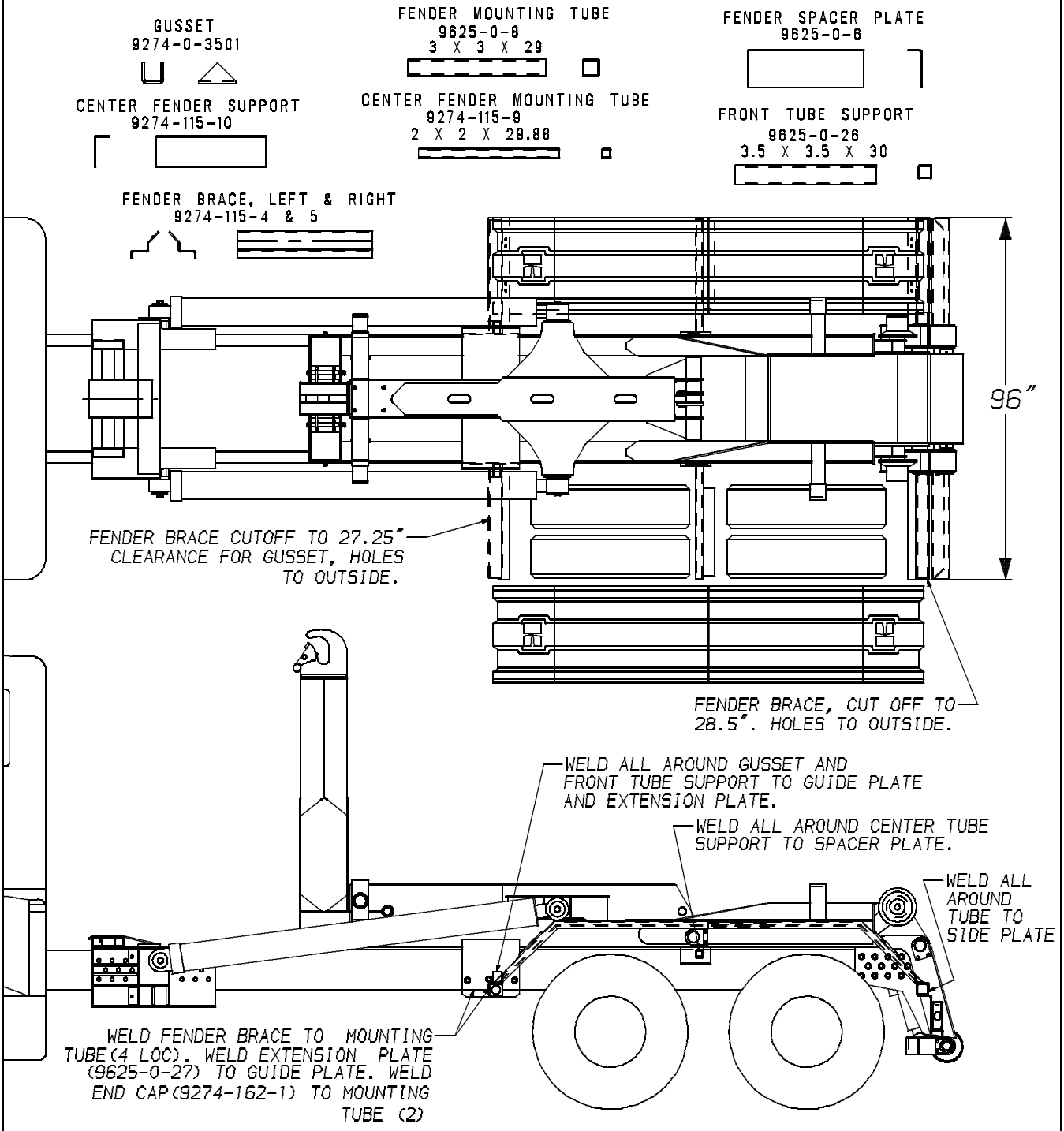
M9625-51

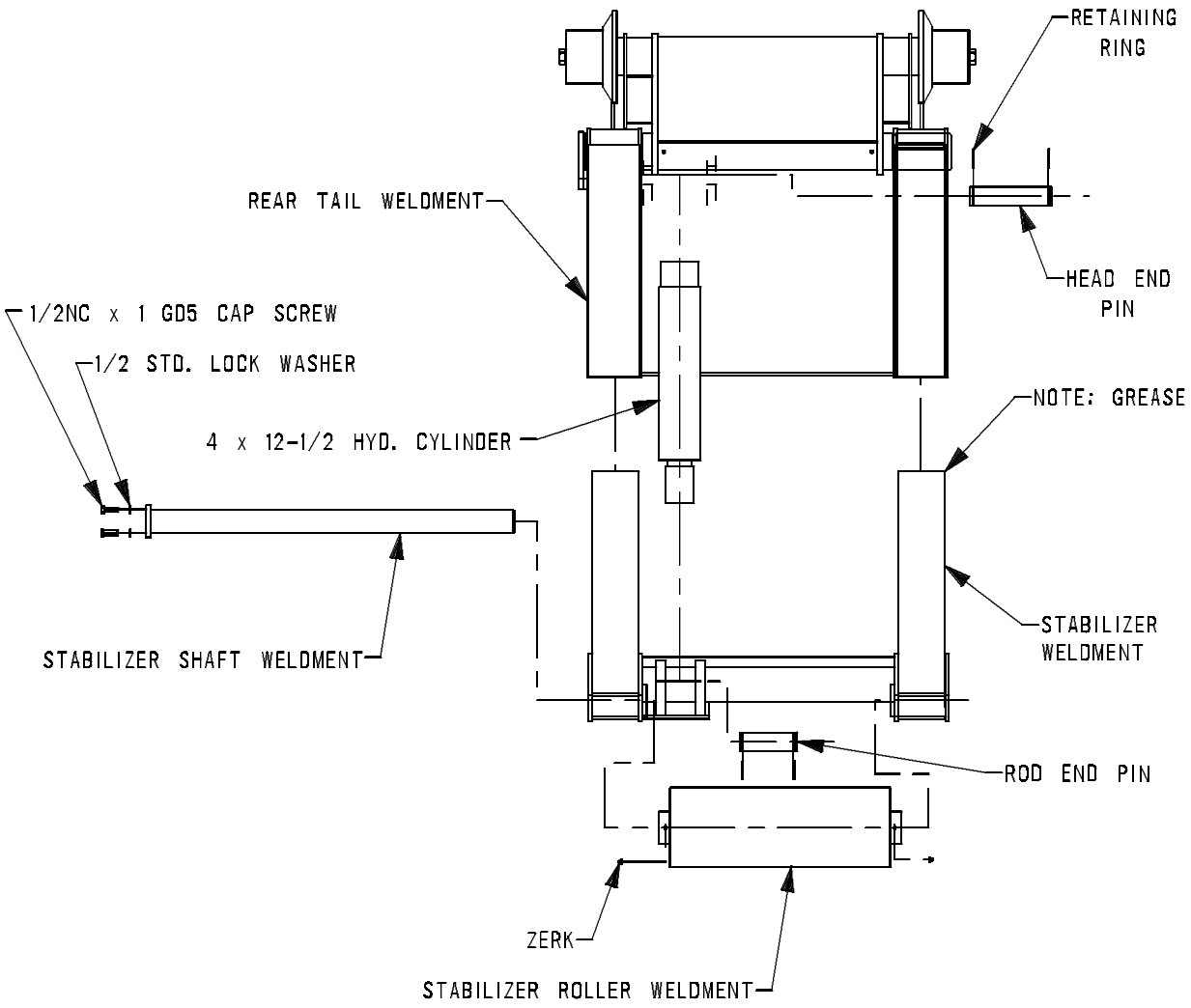
PLASTIC KRAUSE FENDER INSTALLATION



1. Set FENDER above tire with top of fender level with top of tilt frame tubes, center fenders front and back over tires. Locate and weld fender mounting tube (9625-0-8) to side plate of stabilizer. Locate and weld front tube support (9625-0-26) to guide plate. Locate SPACER PLATE (9625-0-6) and weld to bumper and mounting tube on fenders.
2. Locate and weld END CAP (9274-50-6) on 3"sq.tubes. Locate and weld END CAP with hole(9274-162-1) on front tube support.
3. Weld fenders braces on mounting tubes (four locations).
4. Locate and weld center tube fender support (9274-115-9) to guide plate. Adjust center fender bracket (9274-115-10) before welding to tube.
5. Match drill fenders and attach to brackets with bolts, flatwashers and locknuts.

M9625-76

REAR STABILIZER INSTALLATION



1. Slide STABILIZER WELDMENT into REAR PIVOT WELDMENT. Install STABILIZER CYLINDER using HEAD END PIN and ROD END PIN with 2" RETAINER RING to hold pins in place.
2. Install STABILIZER ROLLER WELDMENT using STABILIZER SHAFT WELDMENT and 1/2NC x 1" Cap Screw, Lock Washers.
3. Install hydraulic components using parts shown on pages P4-P5.
4. Install all hoses along inside of truck frame. Secure hoses on inside of truck frame.

IMPORTANT: INSTALL STABILIZER INTO REAR TAIL WELDMENT BEFORE MOUNTING ONTO TRUCK.

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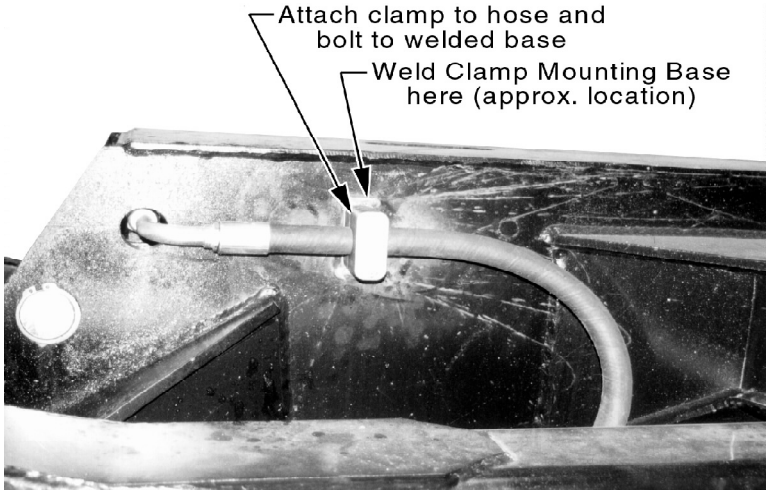
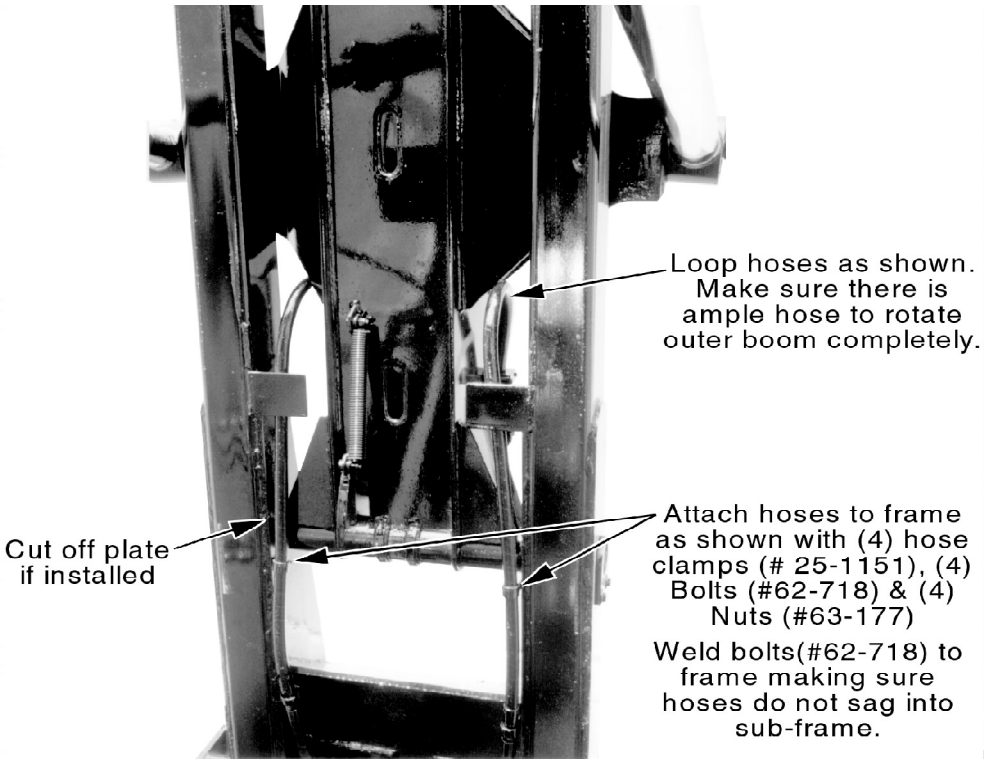
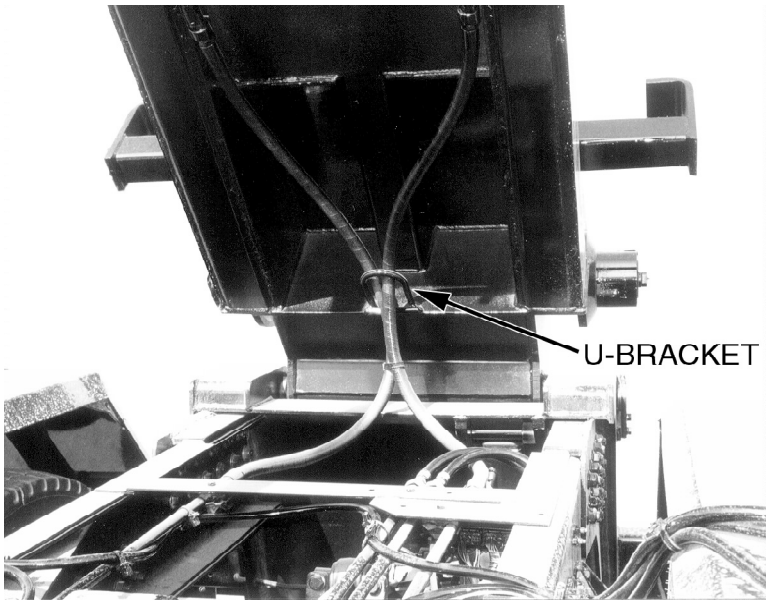
M9625-40



WARNING:
Before working on around a raised hoist, the hoist must be supported by a hoist prop or a rigid structure strong enough to prevent hoist from falling. Failure to use proper support could result in serious injury or death.


Loop hoses as shown. Make sure there is ample hose to rotate outer boom completely.
Cut off plate if installed
Attach hoses to frame as shown with (4) hose clamps (# 25-1151), (4) Bolts (#62-718) & (4) Nuts (#63-177)
Weld bolts(#62-718) to frame making sure hoses do not sag into sub-frame.



WIRING HARNESS INSTALLATION

The KP625/630 should be wired in the manner recommended by the truck manufacturer and should adhere to the laws governing vehicles of the same classification.

Install the side marker light assembly and connect the electrical wiring harness for the brake lights, rear marker lights and reverse lights.

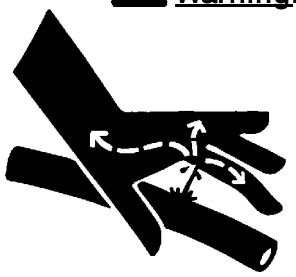
HYDRAULIC SYSTEM START-UP PROCEDURE

Caution: Do not operate the pump until the system is filled with oil. Damage to the pump bearing and shafts can occur.

1. Fill the reservoir up to 2" from the top of the tank with a high quality of SAE 10 hydraulic oil i.e.: Shell (Tellus 22), Texaco (Rando 22) or Mobile DTE 25.

IMPORTANT: NEVER USE A FOAMING (DETERGENT) TYPE OIL.

2. Check the hoist for loose parts, tools, clamps or chains.
3. Check the overhead area for obstructions.
4. Clear all equipment from under the rear of the hoist.
5. Slowly extend the cylinders. Check for binding, rubbing of hoses or metal-to-metal interference between hoist and truck parts.
6. Operate all hydraulic functions to the full capacity for approximately 5 minutes in order to bleed off any entrapped air from the hydraulic system.



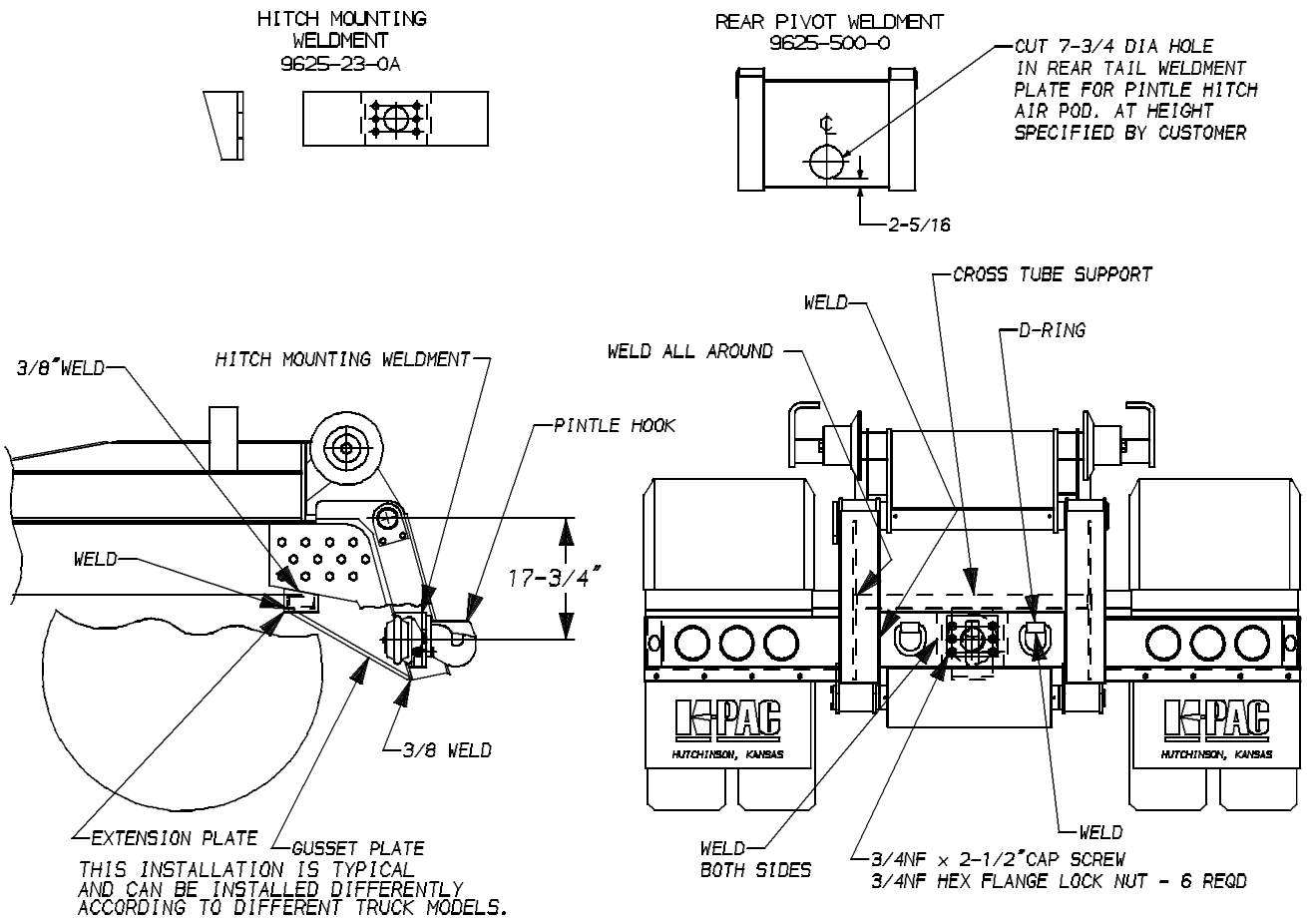
Warning: Escaping fluid under pressure can penetrate the skin causing serious injury. Avoid the hazard by relieving pressure before disconnecting hydraulic lines. Tighten all connections before applying pressure.

Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids.

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result.

7. Perform a loading procedure with a flat rack or dump bin to put the hydraulic system under load and check all connections and components for leaks.
8. If no leaks are visible, remove and replace the rack or bin on the KP625/630 4 to 5 times to ensure that all moving parts are functioning freely and properly.
9. Load the flat rack or bin with a load comparable to the full capacity of the KP625/630 and perform the loading and unloading procedure to ensure that all hydraulic lines and moving parts are functioning properly under load.
10. Operate the winch control and Free-Wheel Control to ensure that they are correctly adjusted and functioning properly.

PINTLE HITCH INSTALLATION



1. Locate proper height for PINTLE HOOK, cut a 7-3/4"DIA. hole through REAR PIVOT WELDMENT plate centered between side channels. Align the HITCH MOUNTING WELDMENT with the 7-3/4"DIA. hole in the rear pivot weldment plate. Weld the hitch mounting weldment in place using 3/8" WELD ALL SIDES.
2. Weld the "D" RINGS onto hitch mounting plate per customer specifications using 3/8" WELD.
3. Weld EXTENSION PLATES to ends of CROSS SUPPORT TUBE using 3/8" Weld. Lift CROSS SUPPORT TUBE weldment into position under truck frame and tack weld into place. Weld EXTENSION PLATES/CROSS SUPPORT TUBE to truck frame using 3/8" WELD.
4. Weld GUSSET PLATE to CROSS SUPPORT TUBE and REAR PIVOT WELDMENT.
5. Bolt on PINTLE HOOK to HITCH MOUNTING WELDMENT with (6) 3/4NF x 2-1/2" Cap Screws and 3/4NF Hex Flange Lock Nuts. Torque bolts.

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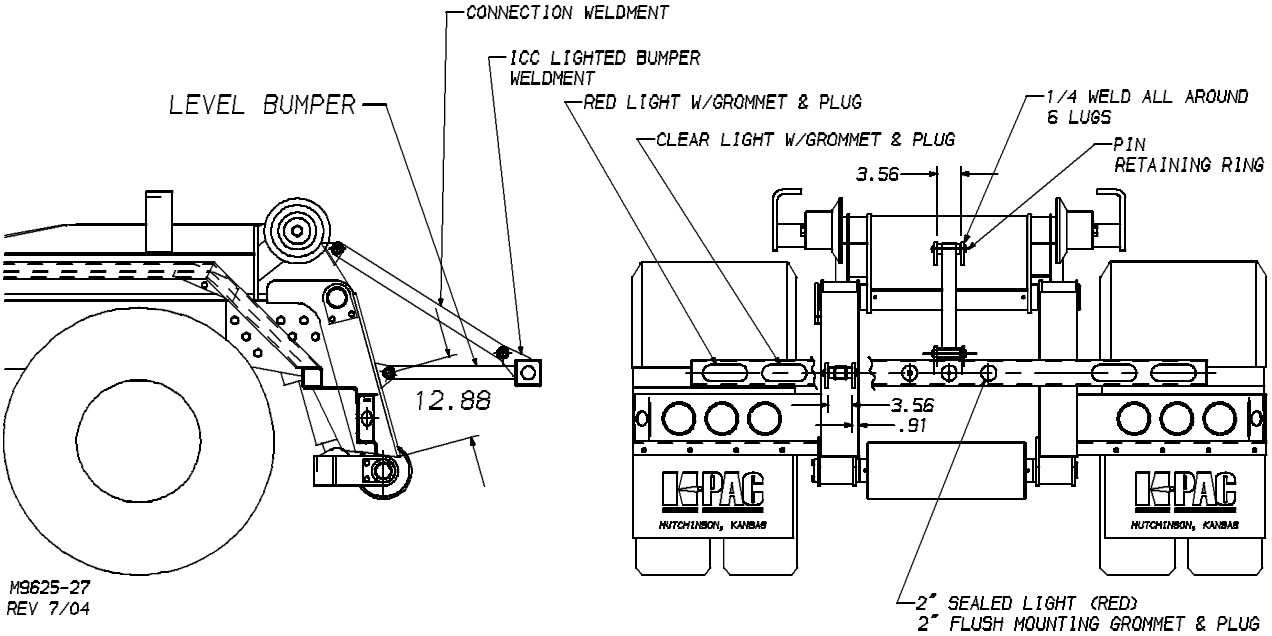
M9625-26

FOLDING ICC BUMPER INSTALLATION



1. Assemble ICC Lighted Bumper Weldment, Connection Weldment, Mounting Lugs and hardware.
2. Install (4) LUGS per dimension shown (12-7/8") before attaching top lugs. Make sure that the bumper weldment is level.
3. Tack weld the mounting lugs to the rear of the stabilizer apron.
4. Tack weld the Mounting Lugs for the Connection Weldment link to the tilt-frame in the center as shown.
5. Operate the hoist into the dumping mode to check the ICC Bumper folding operation.
6. Weld the Mounting Lugs all around as shown.
7. Install and wire lights, etc. routing wires carefully to prevent damage during hoist operation.

INSIDE CONTROL HANDLE INSTALLATION

M9606-26

Locate controls to right of floor gear shift.

Route the control cables under the seat and through the back of the truck cab. Seal the cable holes with grommets.

The right lever cable should be connected to the right side control valve and the left lever cable to the left control valve.

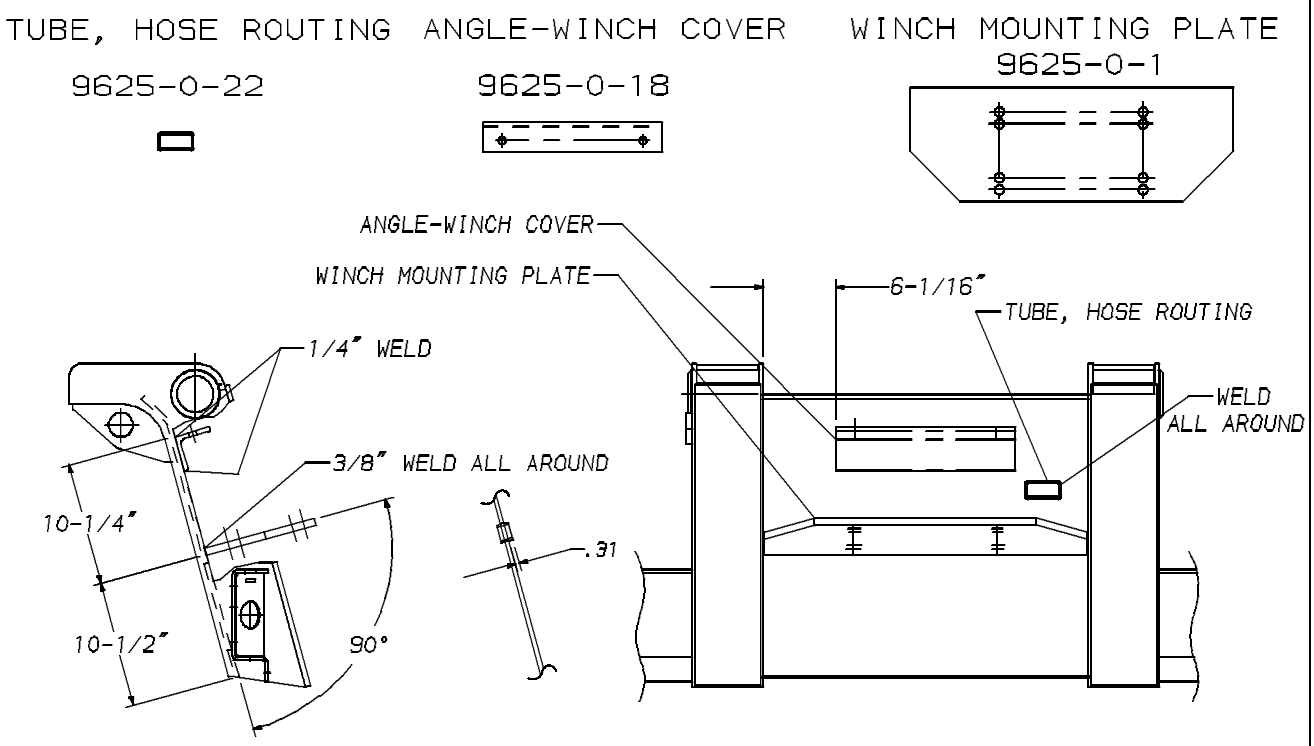
1. Choose a mounting location which is convenient and comfortable for the operator and provides adequate clearance for control lever movement.

   NOTE: Check the underside of the cab for reinforcement members, air lines, wiring harnesses, and linkages before cutting into the floor.

IMPORTANT:A GOOD CABLE PATH IS ESSENTIAL FOR A PROPERLY OPERATING SYSTEM. BE SURE THAT THE LOCATION CHOSEN ALLOWS THE CABLE TO BE LED EASILY AWAY FROM THE CONTROL, WITH NO BENDS OF LESS THAN 8" RADIUS. THE CONTROLS MAY BE MOUNTED "FLUSH" IN A CONTROL CONSOLE SIDE MOUNTED, OR BANK MOUNTED AND THROUGH BOLTED AS SHOWN IN ILLUSTRATION ON PAGE P35.

2. Cut out a hole for the control cables and drill four (4) 7/16"DIA. mounting holes.
3. Mount the control handle and brackets as shown in parts drawing on page P35. Be sure that control handle movement corresponds with the direction decal as shown on page O2.

WINCH MOUNTING PLATE INSTRUCTIONS



1. If hoist has a light bar across rear tail unit, move light bar down to allow winch mounting plate to be installed.
2. Install winch mounting plate and angle, winch cover, as indicated, relocate light bar, move wire connector if needed.
3. Locate where winch would sit on mounting plate, establish approximately where hydraulic lines will need to pass through rear tail plate.
4. Cut out a rectangular hole in rear tail plate to allow a 3" x 1-1/2" tube to be welded in place. Bevel both sides of tubing to protect hoses from damage.
5. Hoses and hydraulic fittings to be installed on winch before mounting winch to plate. See pages P10 & P11.

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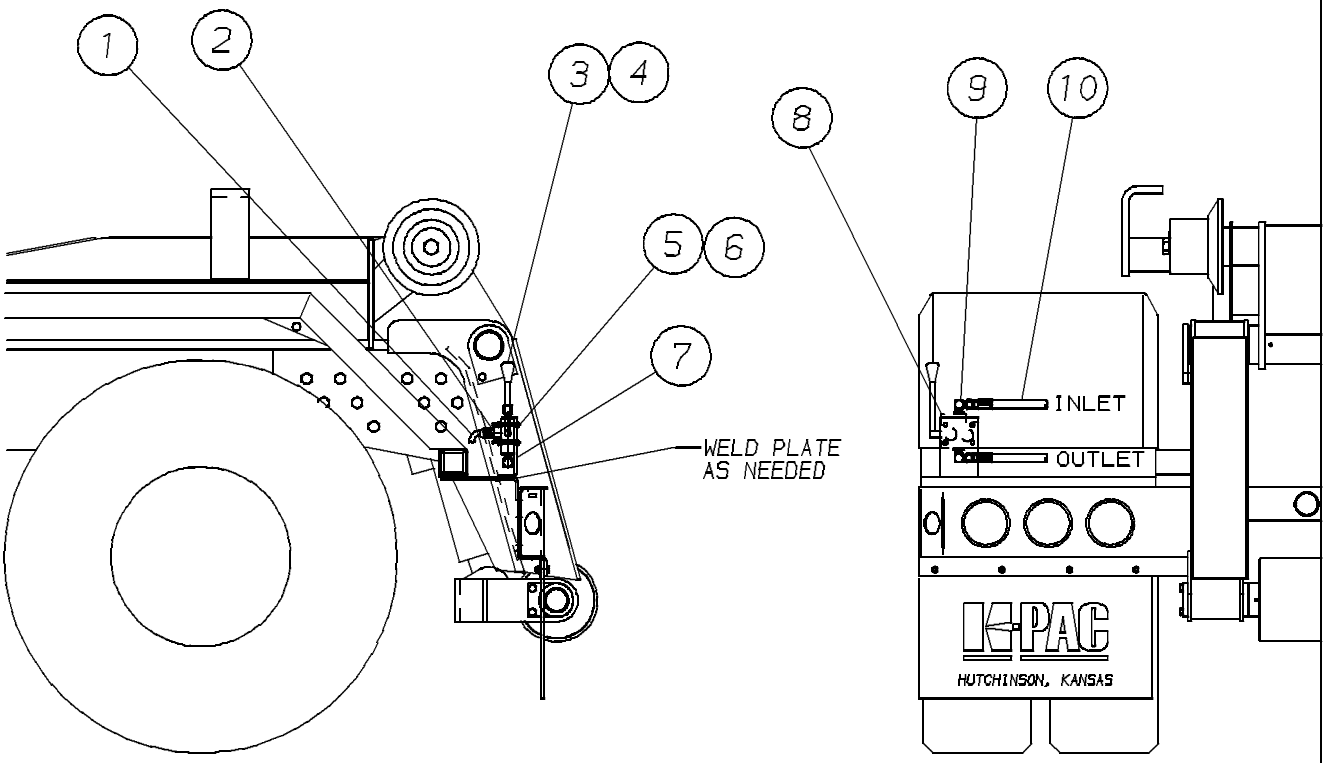
WINCH VALVE MOUNT INSTRUCTIONS



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1. Determine how valve handle is to operate (horizontal or vertically), install valve mounting plate as preferred.
   Valve can also be mounted on fender plate.
2. Install hydraulic fittings on valve before mounting to plate.
3. Valve handles are not to extend past plane of fender.
4. Inlet and outlet could change as to the mounting of the valve.
5. See page P25.

PNEUMATIC CONTROL INSTALLATION INSTRUCTIONS

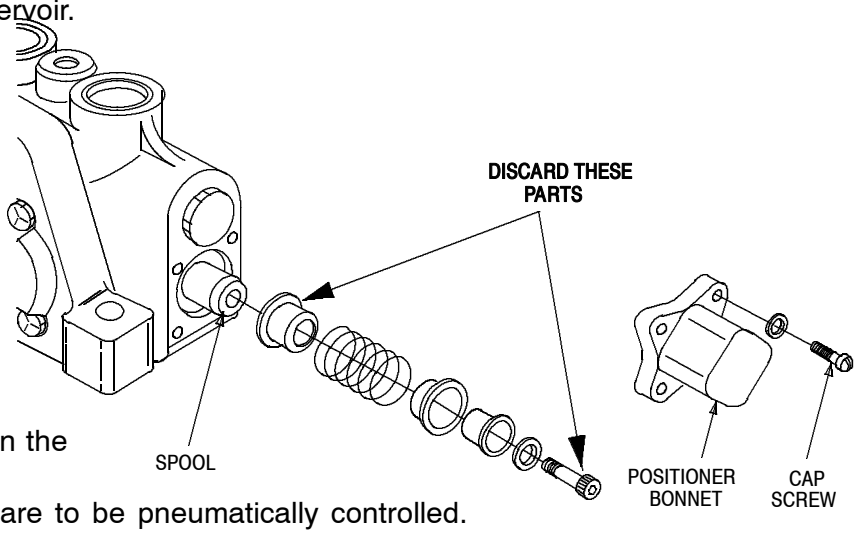
The pneumatic controller provided with the K-PAC Hook Hoist are dual three-way regulating valves. Output of the controllers is proportional to the control lever position and is balanced against the force of an internal spring.

Pneumatic Actuator Installation (Model VA20 Low Boy)

To install the pneumatic actuators to the hydraulic valve, it may be necessary to remove the valve from the hydraulic reservoir.

1. First loosen the hose clamp and disconnect the hose between the valve and the oil filter.
2. Next, remove the 90° hose fittings and the valve mounting bolts.

Find a suitable area free of dust and dirt to attach the pneumatic actuators.



1. Set the hydraulic valve on the mounting base.
2. Determine which spools are to be pneumatically controlled.
3. Remove the positioner bonnet located on the back end of each spool (opposite from the handle end).
4. Using a 5/16" hex allen wrench and a screw driver on the handle end of the spool, remove the socket head cap screw retaining the stop collar and spring.

   NOTE: It may be necessary to give the allen wrench a sharp rap to break the socket head screw loose.

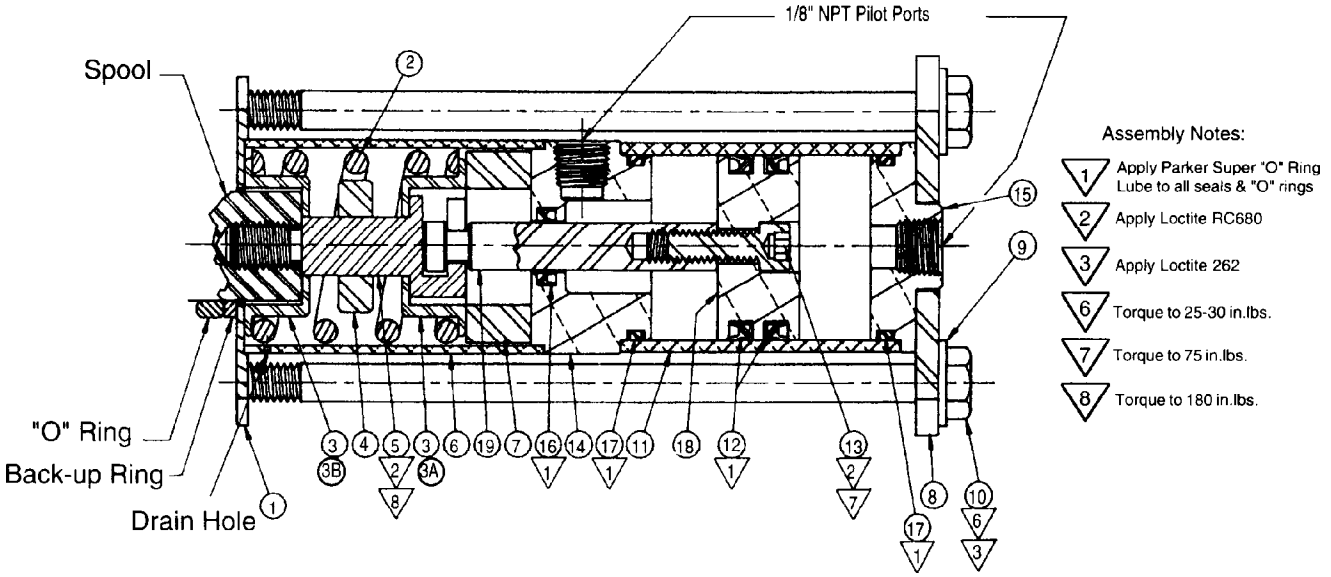
   Discard the spring, socket head screw and TWO spring collars.

Installing the Airshift Operator

1. Install the original O-Ring (Item C), the back-up ring (Item D), and the new retaining plate (Item 1) on the cap end of the spool.
2. Slide one of the spring guides (Item 3-VA35 of Item 3A-VA20), the stop tube (Item 4), spring (Item 2) and the other spring guide (Item 3-VA35 or 3B-VA20-Note that 3B has holes) on the stripper bolt. Apply 2 or 3 drops of Loctite RC680 about halfway down the threaded hole in the spool. Screw the stripper bolt (Item 5) into the spool and torque to 180 in. lbs.
3. Carefully slide the spool back into the housing from the cap end.
4. Lubricate all seals with Parker Super O-Ring Lube or equivalent.
5. Place the spacer tube (Item 6) into the recess in the retainer plate (Item 1). Be sure the drain hole is down.
6. Pull on the piston rod (Item 19) until you feel it bottom out on the flange (Item 14). Slide the spacer tube (Item 7) on the end of the piston rod. Insert the end of the piston rod into the slot in the stripper bolt.
7. Install the retainer plate (Item 8) over the seal retainer (Item 15).
8. Apply 2 or 3 drops of Loctite 262 inside the tapped holes in the housing.
9. Put the washers (Item 9) on the 1-1/4" cap screws (Item 10). Push the cap screws through the retaining plate and screw them into the valve housing. Be sure all parts are properly aligned and seated. Torque the cap screws to 25 - 30 in. lbs.

This completes the conversion.

SPECIFICATIONS	
Pilot Pressure	100 psi minimum
	150 psi maximum
30 psi nominal shift pressure required to start spool movement.	


1/8" NPT Pilot Ports
Spool
"O" Ring
Back-up Ring
Drain Hole
Assembly Notes:
1 Apply Parker Super "O" Ring Lube to all seals & "O" rings
2 Apply Loctite RC680
3 Apply Loctite 262
6 Torque to 25-30 in.lbs.
7 Torque to 75 in.lbs.
8 Torque to 180 in.lbs.

ITEM	QTY.	DESCRIPTION	ITEM	QTY.	DESCRIPTION
1	1	Retaining Plate	10	2	6-1/4" Cap Screw
2	1	Spring	11	1	Pressure Tube
3	2	VA35 Spring Guide	12	2	Wiper Seal
3A	1	VA20 Spring Guide	13	1	3/4" Cap Screw
3B	1	VA20 Spring Guide	14	1	Flange
4	1	Stop Tube	15	1	Seal Retainer
5	1	Stripper Bolt	16	1	Wiper Seal
6	1	Spacer Tube	17	2	O-Ring
7	1	Spacer Tube	18	1	Piston
8	1	Retainer Plate	19	1	Piston Rod
9	2	Washer			

Pneumatic Controller Installation (In Dash)

If the controllers are to be mounted in the cab dash, an area 3.25" high and 1.38" wide for the single unit must be clear of any obstruction to a depth of 3.50" behind the panel. The joystick requires an area 3.38" high, 3.38" wide and 3.5" deep.

Pneumatic Controller Installation (Tower)

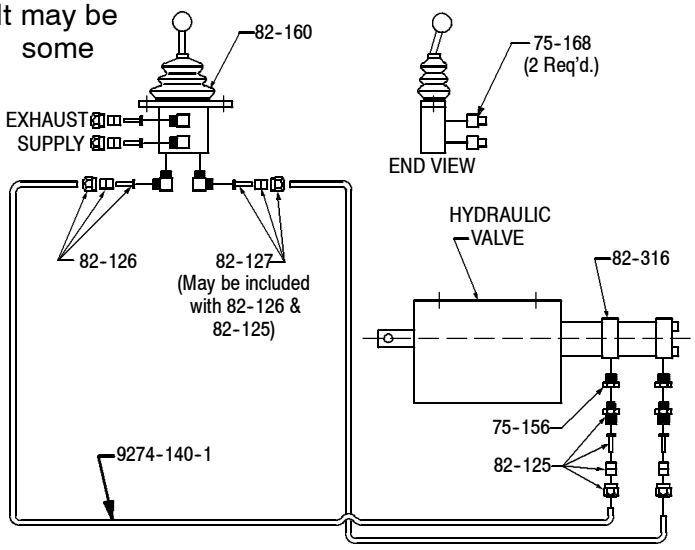
1. Determine a suitable location which is in a comfortable location for the driver and not in the way of the transmission lever.
2. Position the lower bolt holes so that the bolts will miss any cable, wires or structural members in or under the cab floor.
3. Mark and drill the four (4) .44"DIA. holes for the mounting bolts.
4. Determine a location in the area between the mounting holes to run the air lines.
5. Drill a 2" to 3" DIA. hole through the floor of the truck. Remove all burrs and sharp edges. Line the hole with a suitable grommet material.
6. Using the washers on the under side of the floor, attach the tower to the floor with 3/8" cap screws and lock nuts.

7. Mount the controller(s) to the tower top plate as shown.

After the controllers have been mounted, the plumbing of the air lines can be started. It may be necessary for the installer to provide some additional hardware and pneumatic fittings to complete the installation.

1. Determine a suitable route for air lines.
2. Cut the necessary holes, remove all burrs, and add grommets to any sharp edges.
3. Determine the line length required, and cut two lines for each actuator.
4. Route the lines between the controllers and the actuators.
5. Bundle the lines together and secure them out of harm's way.

SINGLE UNIT CONTROL

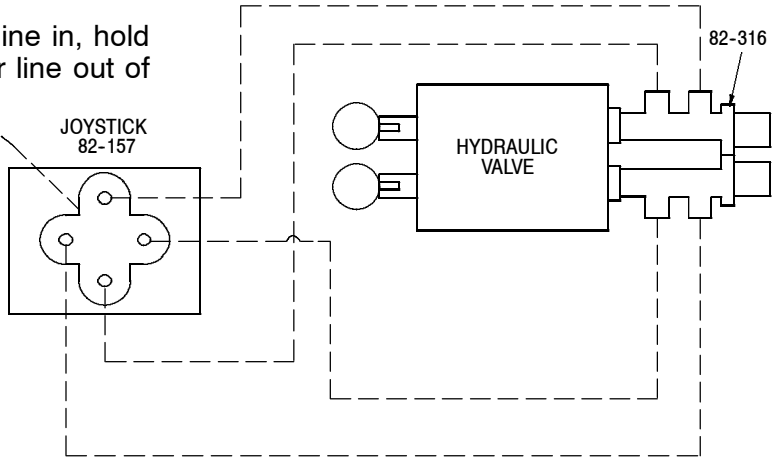


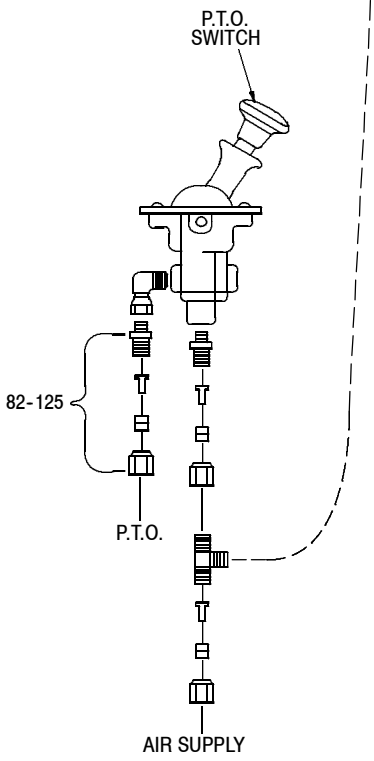
Joystick Controller & Single Valve Controller

1. Simply square cut the end of the air line and connect each controller port to corresponding actuator port.
2. Attach the supply and exhaust lines as shown.

To remove an air line: Push the line in, hold the internal sleeve and pull the air line out of the fitting.

3. Attach the air lines to the valve actuators in the same manner.





Supply air line connection.

1. Run an air line between the supply port of the controllers and the outlet port of the P.T.O. air switch.
2. Route the exhaust port line out of the cab.

Start-up Procedure

1. Charge the air system of the truck and check all lines for leakage.
2. Operate the controllers and check for correct hydraulic valve movement.

NOTE: The controllers pressurize the port toward which the handle is moved. If the function is to be reversed, exchange the air lines at the controller or actuator.

3. After the correct connections have been made, and the hoist has been completely installed, engage the P.T.O. to check out the operation of the hoist.

INNER BOOM HYDRAULIC INTERLOCK INSTALLATION

1. Position the switch mounting plate (9716-0-30) on main frame as shown.

   IMPORTANT: The switch <u>MUST BE</u> positioned <u>UNDER</u> the tilt frame. If the switch is positioned under the boom, the boom will not retract when hooking to a container or load.

2. Weld switch mounting plate with 1/4" welds.

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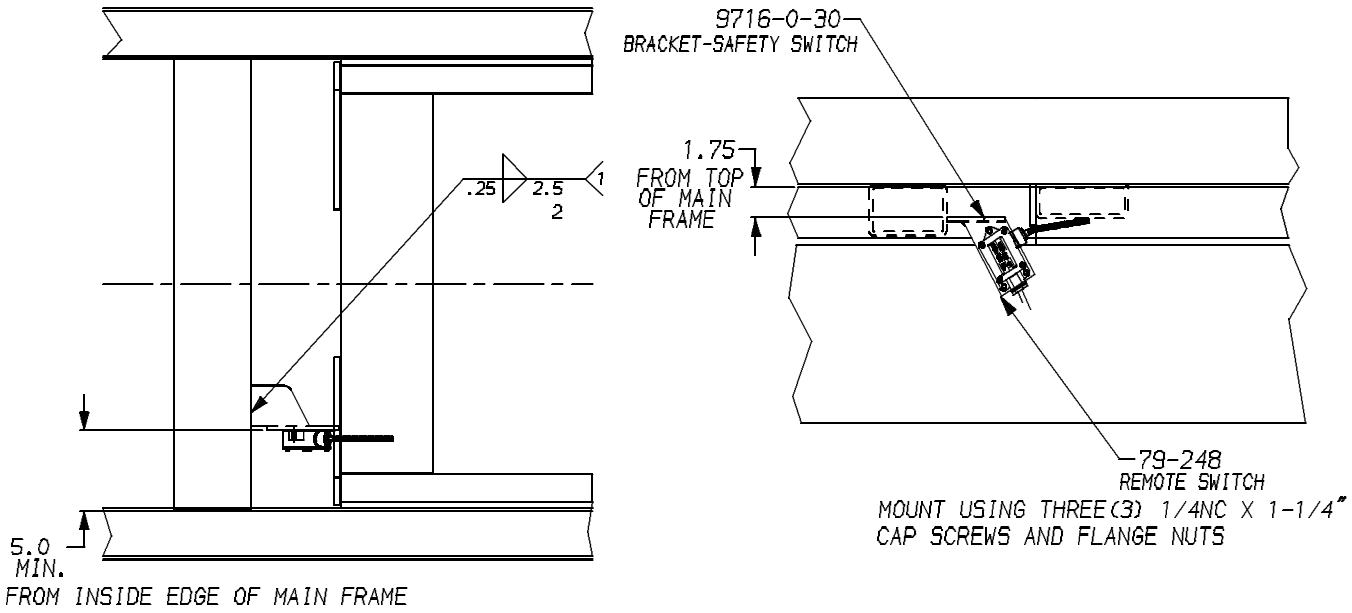
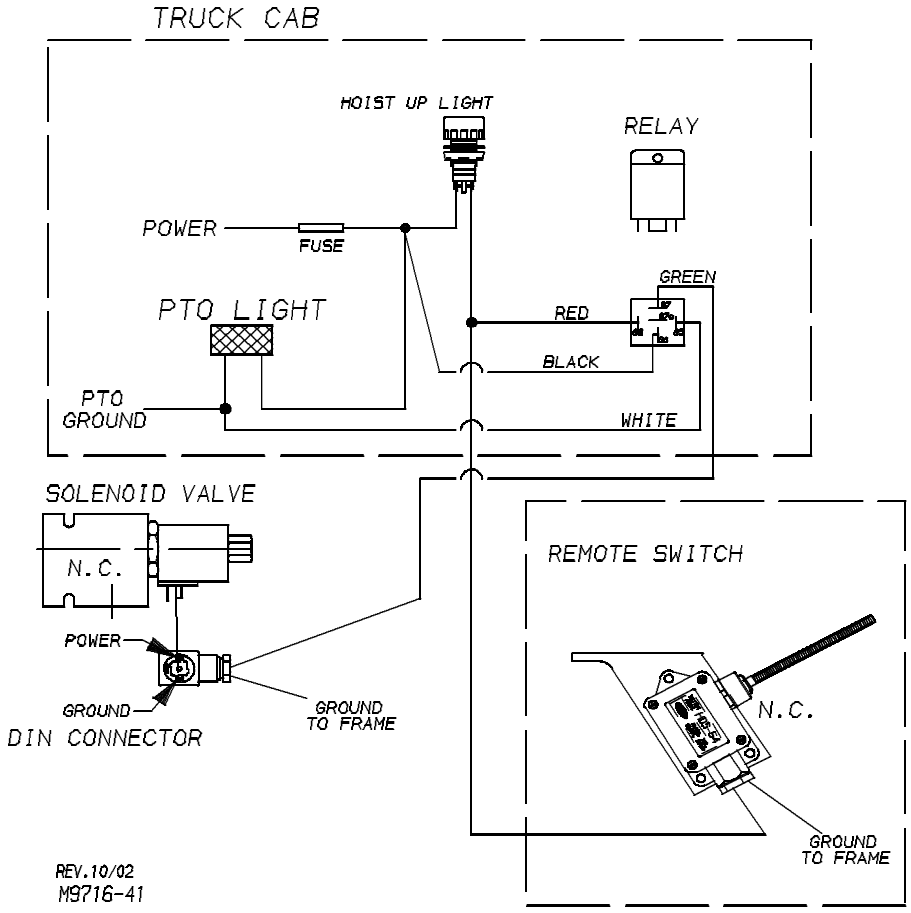
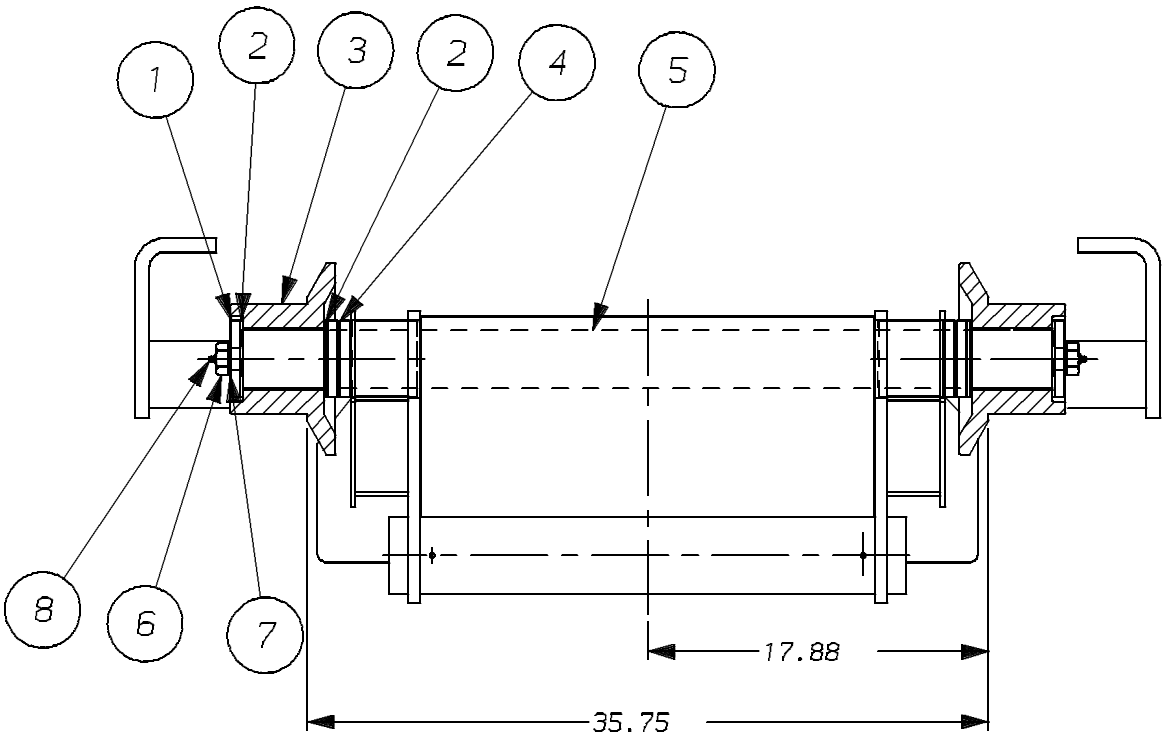
3. Mount the remote switch (79-248) to mounting plate with 1/8NC x 1-1/4" Cap Screws and Hex Flange Lock Nuts.



4. Wire remote switch to solenoid valve as shown, cap blue wire on relay harness (not used).



SINGLE ROLLER ASSEMBLY INSTRUCTIONS



INSTALL REAR ROLLER SHAFT (5) IN MAIN FRAME WELDMENT, CENTER SHAFT ON MAIN FRAME WELDMENT. INSTALL SPACER (4) TWO EACH ON BOTH SIDES. INSTALL MACHINE BUSHING (2) AND INSTALL GUIDE ROLLER ASSEMBLY (3) ON EACH SIDE. RETAIN GUIDE ROLLER ASSEMBLIES WITH ON EACH MACHINE BUSHING (2) , ONE EACH GUIDE ROLLER RETAINER (6) ONE EACH LOCK WASHER (7) AND ONE EACH GREASE ZERK (8) ON EACH SIDE

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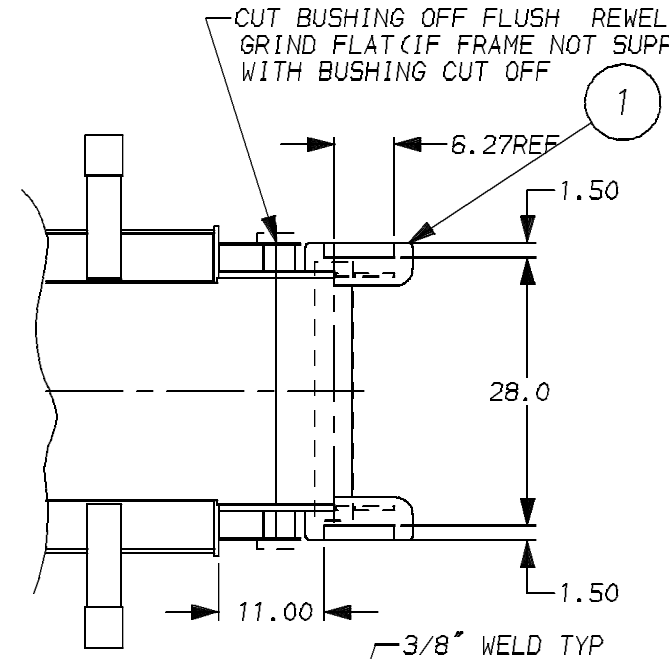
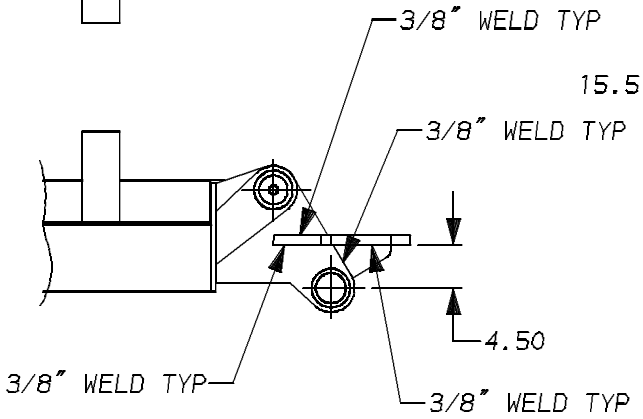
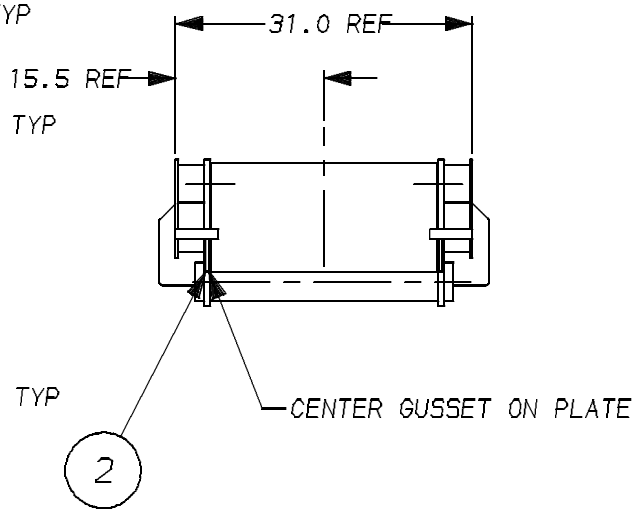
DOUBLE ROLLER WELDING INSTRUCTIONS



IMPORTANT:

STOPS MUST BE INSTALLED OR UNIT WILL NOT SAFELY FUNCTION





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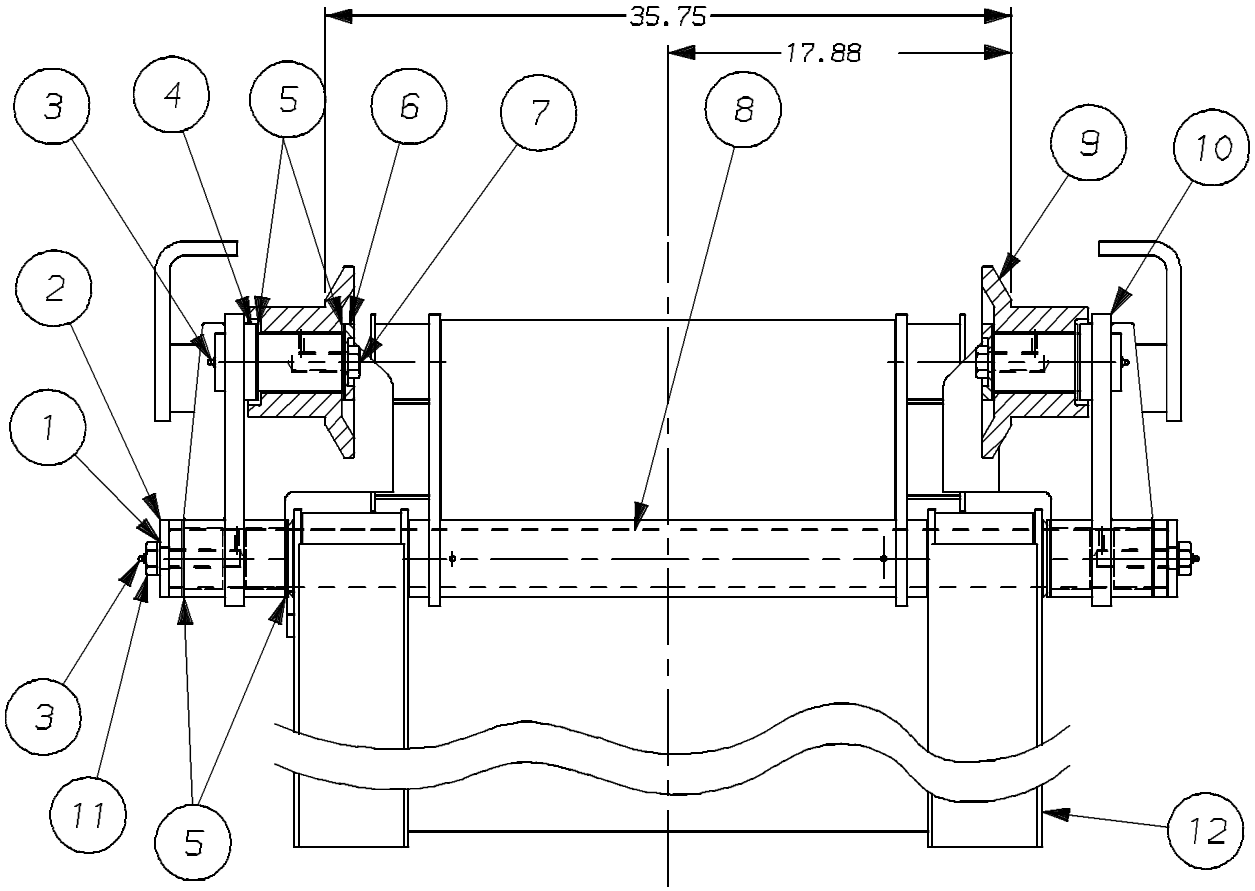
DOUBLE ROLLER ASSEMBLY INSTRUCTIONS



AFTER MODIFYING MAINFRAME PER DOUBLE ROLLER WELDING INSTRUCTIONS INSTALL REAR TAIL WELDMENT TO MAIN FRAME WELDMENT WITH ONE EACH REAR PIVOT SHAFT (8) . ADD ONE EACH MACHINE BUSHING (5) TO EACH SIDE, INSTALL ONE EACH DOUBLE ROLLER ARM WELDMENT(10) ON EACH SIDE. RETAIN EACH SIDE WITH ONE EACH MACHINE BUSHING (5) , ONE EACH SPACER (4) , ONE EACH SPECIAL BOLT (11) WITH ONE EACH LOCK WASHER (1) .

ASSEMBLE DOUBLE ROLLER ARM WELDMENT (10) , INSTALL ON EACH PIN, ONE EACH SPACER (4) , ONE EACH MACHINE BUSHING (5) , ONE EACH GUIDE ROLLER ASSEMBLY (9) , ONE EACH MACHINE BUSHING (5) , ONE EACH GUIDE ROLLER RETAINER (6) AND LOCITITE ONE EACH HEX.HD.CAP SCREW (7) .

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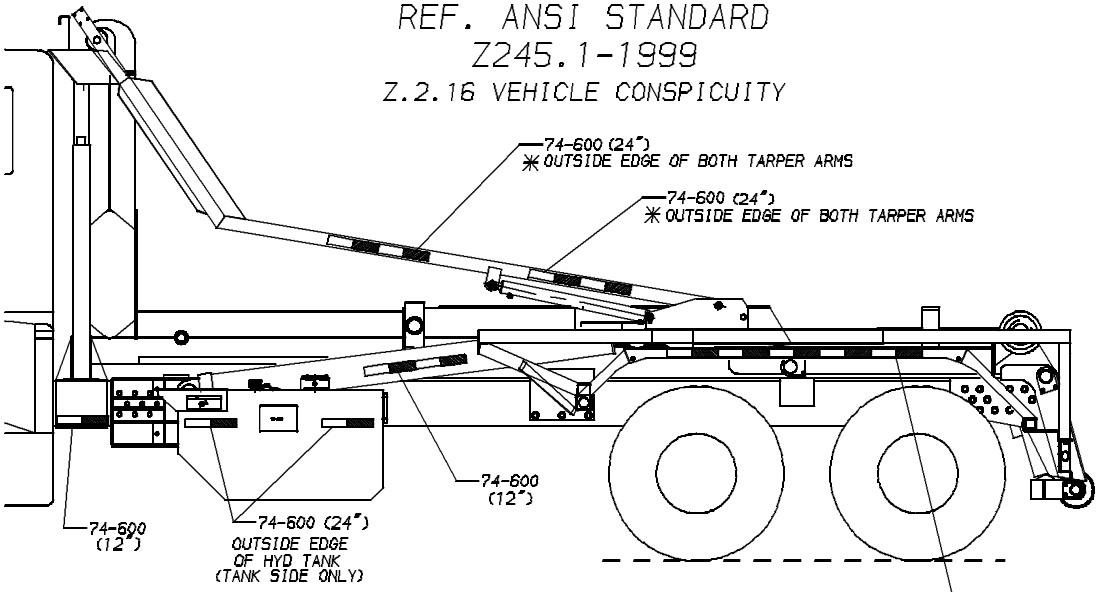
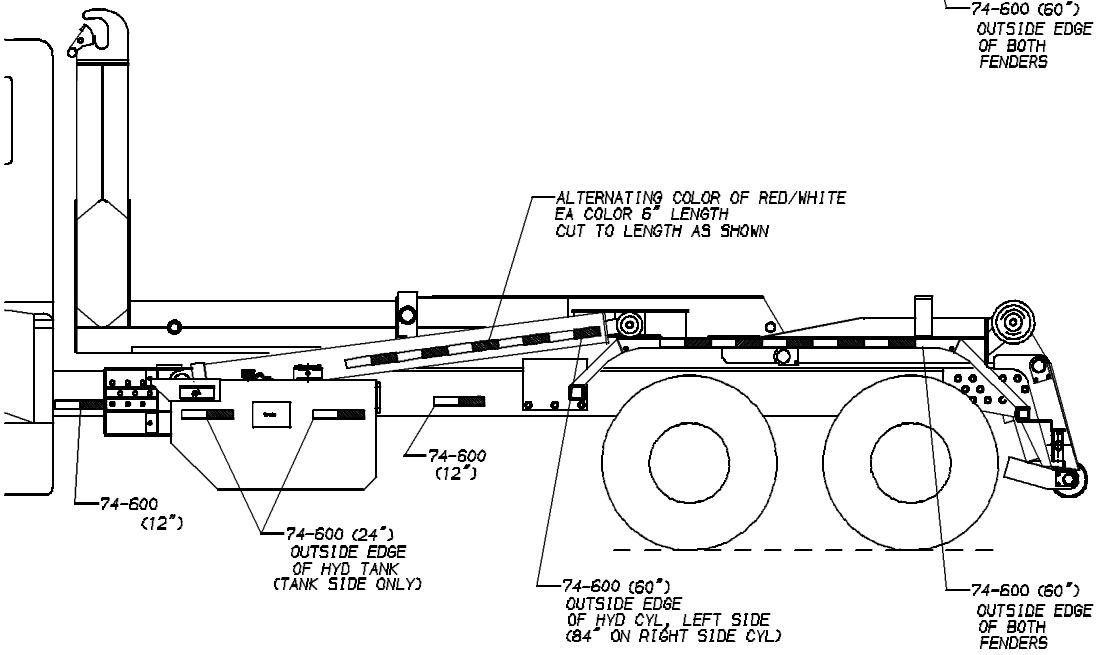
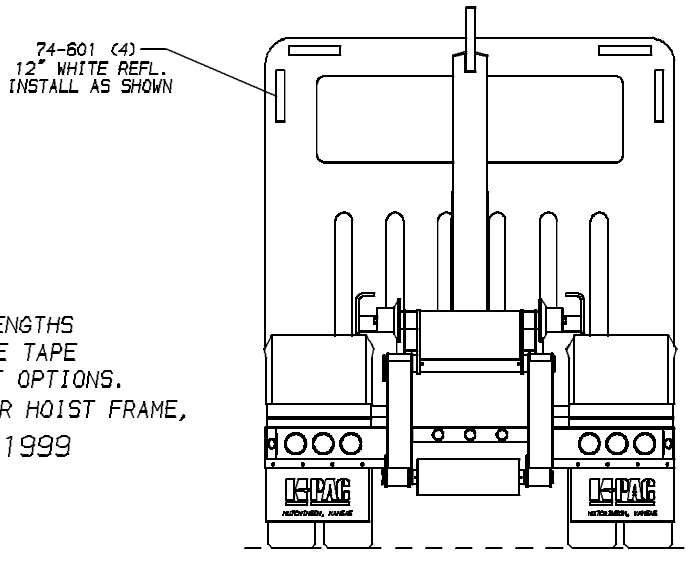
REFLECTIVE TAPE INSTALLATION

REF. ANSI STANDARD
Z245.1-1999
Z.2.16 VEHICLE CONSPICUITY







REFLECTIVE TAPE LOCATIONS AND LENGTHS
ARE FOR REFERENCE, YOUR REFLECTIVE TAPE
LOCATION MAY DIFFER DUE TO EQUIPMENT OPTIONS.
REFLECTIVE TAPE TO COVER TRUCK CHASSIS OR HOIST FRAME,
PER ANSI STANDARD Z245-1-1999

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